KURBASOV, A.S., kand.tekhn.nauk

Improving the commutation of electric traction motors operating on a pulsating current. Vest.TSNII MPS 20 no.4:8-11 '61.
(MIRA 14:7)

(Electric railway motors)

KURBASOV, A.S., kand.tekhn.nauk

What causes the wear of the collectors of electric traction motors.
Vest.TSNIIMPS 21 no.7:8-11 '62. (MIRA 15:12)
(Electric railway motors)

KURBASOV, A.S., kand.tekhn.nauk (Moskva)

Fundamentals of the power theory of the commutation of d.c. machines. Elektrichestvo no.7:24-28 Jl '62. (MIRA 15:7)
(Electric machinery--Direct current)
(Commutation (Electricity))

KURBASOV, A.S., kand.tekhn.nauk (Moskva)

Calculation of the commutation of d.c. machines. Elektrichestvo no.8:69-72 Ag '62. (MIRA 15:7)
(Electric machinery--Direct current)

KURBASOV, Aleksandr Sevast'yanovich, kand.tekhn.nauk, starshiy nauchnyy sotrudnik

Power consideration in the theory of commutation. Izv.vys.ucheb. zav.; elektromekh. 5 no.9:1076-1079 '62. (MIRA 16:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta.

(Commutation (Electricity))
(Electric machinery--Direct current)

KURBASOV, A.S., kand. tekhn. nauk

Device for checking the commutation of electric traction motors.
Vest. elektroprom 34 no.6:53-56 Je '63. (MIRA 16:7)

(Electric railway motors—Testing)
(Electric measurements)

ALEKSEYEV, A.Ye.; KHVOSTOV, V.S.; KURBASOV, A.S., kand. tekhn. nauk

Concerning A.S. Kurbasov's articles "Principles of the energy theory of the commutation of d.c. machines" and "Calculation of the commutation of d.c. machines." Elektrichestvo no.12: 75-81 D '63. (MIRA 17:1)

1. Chlen-korrespondent AN SSSR (for Alekseyev).

KURBASOV, A.S., kand.tekhn.nauk

Criteria of the commutational strength of d.c. machines.
Elektrotekhnika 34 no.9:9-12 S '63. (MIRA 16:11)

KURBASOV, A.S., kand. tekhn. nauk

Experimental determining of induction in the commutation zone of traction motors for electric locomotives. Vest. TSNII MPS 23 no.7:27-30 '64. (MIRA 18:3)

KURBASOV, Aleksandr Sevas'yanovich, starshiy nauchnyy sotrudnik

Current distribution between brush holders of the same polarity in electric traction motors. Izv. vys. ucheb. zav.; elektromekh. 8 no.4:477-479 '65. (MIRA 18:5)

KURBASOV, A.S., kand. ekhn.nauk; RUNOV, Yu.A., inzh.

Experimental study of the potential conditions of the traction motor collectors of electric locomotives. Trudy TSNII MPS no.286:160-165 '65. (MIRA 18:8)

ACC NR: AP6021336 SOURCE CODE: UR/0141/66/000/003/0283/0287

43 B

AUTHOR: Kurbasov, Aleksandr Sovast'yanovich (Candidate of technical sciences; Chief science associate); Yolkin, Sergey Nikolayevich (Chief engineer)

ORG: [Kurbasov] All-Union Scientific Research Institute of Railway Transport (Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta); [Yolkin] Novocherkassk Electric Locomotive Works (Novocherkasskiy elektrovozostroitel'nyy zavod)

TITLE: Construction of load inserts in the frame of a pulsed current drive motor

SOURCE: IVUZ. Elektromekhanika, no. 3, 1966, 283-287

TOPIC TAGS: electric motor, alternating current

ABSTRACT: An NB-412M drive motor has no special frame devices for passing the variable component of the commutating current, and therefore it exhibits up to twice as much brush arcing when it is operated with a pulsed current as compared with d-c. Previously proposed load inserts for the cast frame of this motor were defective in that they were designed solely for the alternating commutating current but shorted the constant current of the main poles; furthermore they became saturated, which sharply increased their magnetic resistance to the alternating current. A design is proposed that avoids these defects.

Card 1/2 UDC: 621.331

L 31701-66

ACC NR: AP6021336 O

The new inserts are laminated packets, the elements of which are stamped out of an electrotechnical steel. Owing to a system of gaps, magnetic resistance to dc of the main poles is increased, whereas it is practically unchanged for the d-c component and is significantly decreased for the alternating component of the interpoles.
Tests of the modified design were made at the Central Scientific Research Institute of the MPS, and the results indicate greatly reduced arcing. Other results are tabulated and compared with tabulated test data for an unmodified motor; the improvement in operation is marked. Orig. art. has: 3 figures and 2 tables. [JPRS]

SUB CODE: 09 / SUBM DATE: 12Nov65

Card 2/2 GD

L 01298-67 EWT(1)
ACC NR: AP6015029 (A) SOURCE CODE: UR/0144/66/000/004/0410/0415

AUTHOR: Kurbasov, A. S. 34 8

ORG: none

TITLE: Magnitude and phase of the commutating flux in various types of traction-motor stators

SOURCE: IVUZ. Elektromekhanika, no. 4, 1966, 410-415

TOPIC TAGS: electric motor, dc motor, commutation, electric traction 19

ABSTRACT: The results are reported of an experimental investigation of these d-c traction motors: (1) DPE-400, 400 kw, 1500 v , 4 poles, cast-steel frame, laminated main-pole cores; (2) NB-412, 650 kw, 1450 v, 6 poles, design same as above; (3) NB-412 M, 690 kw, 1450 v, laminated (0.5-mm) commutating poles, cast-steel frame, 4 (0.5-mm) laminations ("insert") under main poles; (4) NB-415 A, 720 kw, 1450 v, 4 poles, a laminated core including commutating poles placed inside the cast-steel frame. Motor performance was tested under both pulsating-current conditions (with various ripple factors) and d-c plus 100-cps current conditions; the

Card 1/2 UDC: 621.3.013.4 + 621.3.091

L 01298-67
ACC NR: AP6015029 O

ac was fed either to the commutating poles or to the armature winding. Conclusions: (1) Types 1 and 2 stator designs are permissible if the a-c component of the reactive emf is lower than the noncompensated emf; (2) The stator magnetic-circuit characteristics are better (the degree of noncompensation of the reactive emf equals 0.65) in type 3; (3) The type 4 stator improves the magnetic-circuit characteristics only to a certain degree; (4) As the magnetic-circuit saturation is approached, the a-c commutating flux either changes little (type 1), or essentially decreases (types 2 and 4), or increases (type 3); (5) The laminated insert (type 3) reaches saturation very quickly; at 200 amp, the insert passes only 20% of the a-c commutating flux; the laminated core (type 4) reaches saturation with smaller-than-rated current. Orig. art. has: 1 figure and 2 tables.

SUB CODE: 09 / SUBM DATE: 10Jul63 / ORIG REF: 002

Card 2/2 LC

ACCESSION NR: AP4037178 S/0069/64/026/003/0330/0334

AUTHOR: Kurbasov, V. V.

TITLE: Relationship between dichroism and the degree of polarization in the electrooptics of colloids

SOURCE: Kolloidny*y zhurnal, v. 26, no. 3, 1964, 330-334

TOPIC TAGS: colloid, electrooptics, dichroism, polarization, dichroism polarization correlation, intrinsic dichroism, Kerr effect, orientation theory, spectrophotometry, polarization spectral function, dichroism spectral function, optical density, hydrosol

ABSTRACT: This article proposes and experimentally verifies a formula correlating dichroism and polarization. The study initially considered two basic quantities usually used as a measure of electric dichroism: intrinsic dichroism, as determined by the formula:

$$D = (k_{\parallel} - k_{\perp})/(k_{\parallel} + k_{\perp}),$$

(where $k_{\parallel}$ and $k_{\perp}$ are the coefficients of extinction for incident

Card 1/4

light components parallel and perpendicular to the direction of orientation); and the polarization of light passing through a dichroic medium:

$$P = (I_{\perp} - I_{\parallel})/(I_{\perp} + I_{\parallel}),$$

(where $I_{\parallel}$ and $I_{\perp}$ are the light intensities of the vibration planes parallel and perpendicular to the electric field). Further consideration developed the following expression based on the formula of the orientation theory of the Kerr effect, for the absorption of colloidal solutions in an electric field:

$$k = (k_{\parallel} + 2k_{\perp})/3. \quad (I)$$

The following relationship between dichroism and polarization was also determined:

$$D = \frac{3 \ln[(1+P)/(1-P)]}{6kd + \ln[(1+P)/(1-P)]} \quad (II)$$

It was concluded that dichroism can be determined if polarization is known and if the optical density of the solution without a field is calculated from spectrophotometric measurements: $kd = \lg(L/I)$. It was determined graphically that the degree of polarization approaches unity with high optical density values and

ACCESSION NR: AP4037178

significant dichroism, that the polarization does not change with change in dichroism or optical density, and that the spectral function of the degree of polarization approximates that of dichroism. An examination of the absorption spectra, degree of polarization, and dichroism of dyes (methylene blue acid and neutral Congo red, Brown Kkh) adsorbed on cellophane shows there is agreement between the absorption spectra and the polarization and dichroism functions. The stationary method for determining electrodichroism (measuring the optical density of plane polarized light passing through a colloidal solution placed in an electric field) was used in a study comparing the dichroism and optical density of the hydrosol of Brown Kkh and of the acid hydrosol of Congo red. It was found that the developed formulas I and II hold true for molecular-disperse systems; and the experimental data and values obtained by the equations I and II differ by less than 5-6%. Orig. art. has: 1 table, 3 figures, and 14 equations.

ASSOCIATION: Kry*mskiy pedagogicheskiy institut im. M. V. Frunze, Kafedra fiziki (Krymsk Pedagogical Institute, Physics Department)

Card 3/4

ACCESSION NR: AP4037178

SUBMITTED: 21Jan63 ATD PRESS: 3071 ENCL: 00

SUB CODE: GC, EM NR REF SOV: 005 OTHER: 003

4/4

Card

[illegible], V.V.

Nature of the electronic dissociation of hydroxyls of the brown Ex dye. Kolloid. zhur. 26 no.4:482-484 July '64.
(MIRA 17:9)

1. Krymskiy pedagogicheskiy institut imeni Lenina, kafedra fiziki.

KURBASOV, V.V.

Particular features of the electrical dichroism of Congo red hydrosols. Koll.zhur. 27 no.3:396-401 My-Je '65. (MIRA 18:12)

1. Krymskiy pedagogicheskiy institut imeni Frunze, kafedra fiziki. Submitted Jan. 10, 1964.

ACCESSION NR: AP4019968 S/0020/64/154/006/1303/1305

AUTHORS: Grasyuk, A.Z.; Zuyev, V.S.; Kokurin, Yu.L.; Kryukov, P.G.; Kurbasov, V.V.; Lobanov, V.F.; Mozhzherin, V.M.; Sukhanovsky, A.N.; Cherny*kh, N.S.; Chuvayev, K.K.

TITLE: Optical moon ranging

SOURCE: AN SSSR. Doklady*, v. 154, no. 6, 1964, 1303-1305

TOPIC TAGS: laser, ruby laser, moon ranging, moon light reflection, celestial ranging, optical ranging

ABSTRACT: The paper describes the preliminary results of moon ranging with a ruby laser. For the transmission and reception of the light pulses, a telescope was used with a mirror diameter of 2.6 m. (see Fig. 1 of the Enclosure). The laser used was developed by V.S. Zuyev and P.M. Kryukov and had the following parameters: wavelength 6943Å, pulse energy 50 to 70 joules, pulse duration 2 μsec, diameter of the beam 11 mm., and divergence 3'. By taking into consideration the light scattering in the atmosphere, the diameter of the spot on the moon is estimated to be 14 km. For the detection of the signal,

Card 1/3

ACCESSION NR: AP4019968

a photomultiplier cooled with dry ice was used. The signal to noise ratio was 0.16. Therefore, statistical treatment was necessary. The authors believe that the results prove the reality of the reflected signal. "The authors are grateful to corresp. members A. G. Basov and A. B. Severny*y, and to B. I. Belov, F. Kh. Nigmatullin of the Lebedev Phys. Institute, and to V. B. Nikonov, V. K. Prokof'yev P. P. Dobronravin, N. V. Stesheuko, and B. P. Abrazhevskiy of the Crimean Astrophysics Observatory." Orig. art. has: 1 figure.

ASSOCIATION: Fizicheskiy institut im. P.N. Lebedeva Akademii nauk SSSR (Institute of Physics, AN SSSR), Kry*mskaya astrofizicheskaya observatoriya akademii nauk SSSR (Crimean Astrophysics Observatory, AN SSSR)

SUBMITTED: 05Nov63 ATD PRESS: 3047 ENCL: 01

SUB CODE: EC, AA NO REF SOV: 001 OTHER: 001

Card 2/3

ACCESSION NR: AP4019968

ENCLOSURE: 01

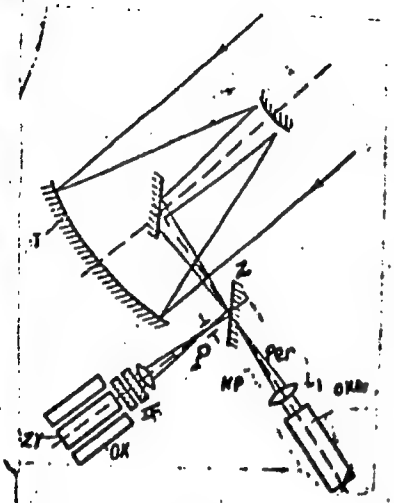

Fig. 1. Diagram of unit for optical moon ranging

T - Telescope; OKG - optical quantized generator; L_1 - matching lens; Z - throwover mirror; D - diaphragm; IF - interference filter; FZY - electron photomultiplier; OK - dry ice container.

3/3

L 22702-66 EWT(1)/T . IJP(c) JXT(CWW)/CW

ACC NR: AP6010439 SOURCE CODE: UR/0386/66/003/005/0219/0223

AUTHOR: Kokurin, Yu. L.; Kurbasov, V. V.; Lobanov, V. F.; Mozhzherin, V. M.; Sukhanovskiy, A. N.; Chernykh, N. S.

ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences SSSR (Fizicheskiy Institut Akademii nauk SSSR)

47
13

TITLE: Measuring the distance to the moon by an optical method

21

9/11

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 3, no. 5, 1966, 219-223

TOPIC TAGS: moon, moon earth distance, distance measurement, moon location, optical location, laser application

ABSTRACT: A description is given of the experimental measurement of the distance to the moon by means of an optical locator. A schematic of the locator is shown in Fig. 1. Ruby laser 1 and photomultiplier 2 are fixed rigidly in the Kude focus of telescope 3. A tunable interference filter 4 is placed in front of the photomultiplier and behind diaphragm 5. Mirror 6 can be automatically switched from receiving to transmitting operations. Photomultiplier output amplifier and pulse shaper 7 follow 2, and the measurement of the time intervals between the emission and reflection (from the moon) of laser pulses is made by

Card 1/4

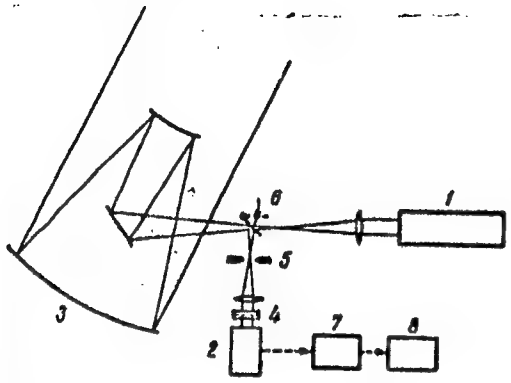

Fig. 1. Schematic of the locator

counter 8, which is activated by that portion of the laser pulse directed to the photomultiplier. The laser operated at 6943 Å, with a pulse energy and duration of 5—7 j and $5 \cdot 10^{-8}$ sec, respectively. The diameter of the main telescope mirror was 2.6 m and its focal length 104 m; the beam diameter was 13 mm, and the divergence of the beam reflected from the telescope mirror was ≥3 sec of arc. The filter pass-band was 10 Å, and the instrumental error in the measurement of time $\pm 10^{-7}$ sec. The observation of the lunar surface was confined to an area located at the bottom of the Flammarion crater with the selenographic

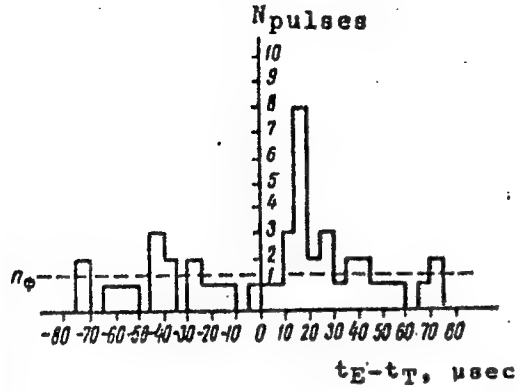

Fig. 2. Results of measurements

coordinates of λ—3°.57 and ϕ—2°.98. The results of observations are shown in Fig. 2, as a frequency distribution of the quantity $t_E - t_T$ in 10-μsec class intervals (t_E and t_T are the experimental and calculated times, respectively, required by a signal to complete the round trip). The signal-to-noise ratio was ~5 and the mean of the useful signal was found to be distributed within the 15—20 μsec class boundary, with a standard deviation of 1.2×10^{-6} sec. The total error in positioning the distribution center was $\pm 1.3 \times 10^{-6}$ sec, which corre-

ACC NR: AP6010439

eponds to ±200 m error in the measurement of distance. Orig. art. has: 2 figures. [YK]

SUB CODE: 20/ SUBM DATE: 22Jan66/ ORIG REF: 002/ OTH REF: 001
ATD PRESS: 4229

Card 4/4 BK

ACC NR: AP6019595 SOURCE CODE: UR/0293/66/004/003/0414/0426

AUTHOR: Kokurin, Yu. L.; Kurbasov, V. V.; Lobanov, V. F.; Mozhzherin, V. M.; Sukhanovskiy, A. N.; Chernykh, N. S.
ORG: none

TITLE: On the feasibility of measuring lunar disk and orbital parameters by optical radar

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 3, 1966, 414-426
TOPIC TAGS: lunar albedo, moon, laser application

ABSTRACT:

Yu. L. Kokurin and coworkers [1] have reviewed the theoretical problems in laser ranging of the moon, with the object of determining more accurate values for several Earth-Moon parameters. The authors discuss methods for 1) obtaining a more detectible reflection signal and 2) using the measured range to compute such parameters as mean lunar orbital radius, lunar disk radius, parallax constant, and Earth equatorial radius.

The basic range equation for a reflected electromagnetic signal is taken as a starting point. The factors are the same as in the radar range equation, except that the return signal varies inversely as the square, rather than as the fourth power, of range, since it is assumed that all the generated laser flux is incident on the Moon. Using an average figure for atmospheric absorption, a lunar albedo of 0.1, and an effective telescope area of 5.3 m^2 (actual area of a telescope currently in use), the authors calculate

 UDC: 523.31.082.5 + 521.61.082.5

that the relationship between reflected and transmitted energy is

$$W_{refl} \approx 2 \times 10^{-19} \; W_{tr}.$$

It follows that with the highest sensitivity photodetectors now available, W_{tr} must be at least 150 joules in order to obtain from the Moon a consistently detectible reflection, i.e., one that does not require statistical analysis to be detected. The pulse must be as short as possible to maximize range resolution; however, present laser pulses of the energy level demanded would have durations of the order of milliseconds, which means a range uncertainty of several hundred kilometers. If Q-switching is used to shorten pulse time, there is an intolerable loss in power amplitude. The conclusion is that only when more powerful short-pulse lasers are developed can there be a significant refinement in lunar ranging measurements.

Factors which degrade the laser technique are also discussed. One of these is the unavoidable divergence of the beam in the atmosphere, estimated at 2" to 3", which would give a lunar spot of some 3.5—5 km across. Contour irregularities within the illuminated area can add to the range uncertainty in the return signal, in the form of range "smear." Owing to the Moon's curvature, a similar effect occurs which increases as a function of

the distance of the target area from the center of the lunar disk. An obvious way to improve the technique would be to place some form of mirror on the Moon; the authors propose an optical corner reflector for this purpose (see Fig. 1) and have analyzed ways of optimizing its design. With the density of the reflector material assumed to be the limiting factor, it is shown that one large reflector is more effective than several small ones. For a glass corner reflector, the gain β in return signal over that from the lunar surface alone (assuming a ruby laser) is calculated to be $\beta = 2.15 \times 10^{-3} a^4$, where a is the length of a joint edge in cm (see Fig. 1). Assuming a glass density of 2.7 g/cc, the authors find values of gain ranging from $\beta = 25$ for $a = 10.4$ cm up to $\beta = 1330$ for $a = 28.2$ cm. Some loss in reflectivity

Fig. 1. Corner reflector (Hexagon indicates effective reflective area)

must be anticipated, such as by dust contamination, so the foregoing figures are based on a reflection coefficient of only 0.5.

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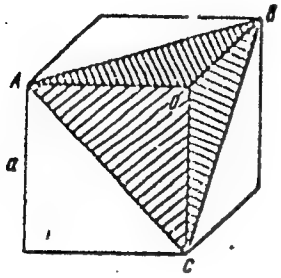
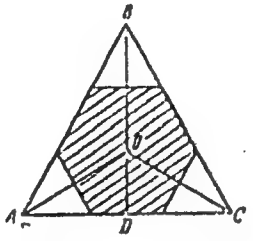




Orientation of the reflector would be critical. If the plane of the aperture is not nearly normal to the laser beam, a severe loss in return signal results; for example, a 15° offset would mean a signal loss of approximately 30% (Initial acquisition of the reflector is not discussed). Constraints on reflector geometry are also quite severe, if diffraction losses are to be minimized. For a reflector with $a = 14$ cm, it is estimated that the angular tolerance between adjoining planes should be held within 0.1"; with such tight tolerances, temperature extremes and mechanical stresses could be

Card 4/5

ACC NR: AP6019595

critical factors in reflector performance. Under reasonably good conditions, however, it is calculated that a reflector with $\beta = 40$ would return an adequate detectible signal to Earth from a Q-switched ruby laser of 4 to 5 joules output.

The possibility of confusing a genuine signal with noise or surface rather than reflector return can be minimized by using multiple detection and correlating the results. In fact, if three photomultipliers are used simultaneously, the experiment could be performed in daylight, with a low probability of error.

The authors conclude by giving the procedures for calculating mean lunar orbital radius (mean distance between Earth and Moon mass centers), radius of the lunar disk, Earth equatorial radius, and Earth-Moon parallax constant. All of these are obtainable from knowledge of an arbitrary line-of-sight distance from the Earth to the Moon, measured as described above. The calculations show that, with the improved ranging method, parameters such as the Moon's orbital radius and disk radius could be determined to accuracies of several hundreds of meters, a great improvement over the present accuracy of several kilometers. Unfortunately, these accuracy figures do not seem to be tied to any tolerance on the range measurement.

/FSB: v. 2, no. 9/ Orig. art. has: 33 formulas, 2 figures and 1 table.

Card 5/5 SUB CODE: 03,20 / SUBM DATE: 26May65 / ORIG REF: 009 / OTH REF: 003

49 - 2 - 9/13

AUTHOR: Kurbatkin, G.P.

TITLE: Hydrodynamic determination of the annual characteristics of the temperature of the air at sea level. (Opredeleniye metodami gidrodinamiki godovogo khoda temperatury vozdukha na urovne morya).

PERIODICAL: Izvestiya Akademii Nauk, Seriya Geofizicheskaya, 1957, No.2, pp. 228-243. (U.S.S.R.)

ABSTRACT: The solution of the problem of determining the annual temperature variation at sea level is given on a world wide scale. The dependence of the thermal properties of the underlying surface of the geographical coordinates is taken into consideration more accurately than has been done in earlier published work. The calculated examples are compared with observation data and with results obtained theoretically by other authors.

Card 1/4

49 - 2 - 9/13

TITLE: Hydrodynamic determination of the annual characteristics of the temperature of air at sea level. (Opredeleniye metodami gidrodinamiki godovogo khoda temperatury vozdukha na urovne morya).

The aim of the author is to present a more detailed theory which would particularly permit taking into consideration the effect of densification and sharp bending of isotherms near the shores. The method presented here permits taking into consideration fully the heat flow from the soil and providing a solution which is less dependent on the slow convergence of spherical function series. The obtained solution is independent of earlier given longitude and latitude ranges. The starting equation for determining the annual variation of the air temperature at sea level is the relation expressing the heat inflow in the form of eq.(1), p.228. The finally derived relations are expressed by eqs.(45) and (46), p.238. Thereby the problem was reduced to solving a system of linear non uniform integral equations of the second Fredholm type.

Card 2/4

TITLE: Hydrodynamic determination of the annual characteristics of the temperature of air at sea level. (Opredeleniye metodami gidrodinamiki godovogo khoda temperatury vozdukha na urovne morya).

For practical calculations a number of simplifying assumptions are made and it is shown that even the first approximation yields a non stationary and non zonal temperature field which is close to the real one. In Figs.1-8, pp.240-242, claculated values are given for January, and in Figs.3-5, these values are compared with real values (curves), actually measured at sea level during January. The method, for instance, can also be applied in long term forecasting of temperature at sea level, taking into consideration the transofrmation of air masses under the influence of the underlying surface, the investigation of the influence of the orography on meteorological fields, etc..

Card 3/4

49 - 2 - 9/13

TITLE: Hydrodynamic determination of the annual characteristics of the temperature of air at sea level. (Opredeleniye metodami gidrodinamiki godovogo khoda temperatury vozdukha na urovne morya).

The text includes 1 table, 2 world temperature distribution maps, 7 graphs, and equations throughout the text. There are 3 references of which 2 are Slavic.

ASSOCIATION: Academy of Sciences of the USSR, Institute of Terrestrial Physics.

PRESENTED BY:

SUBMITTED: 12/3/56

AVAILABLE: Library of Congress

Card 4/4

KURBATKIN, G.P., Cand Phys-Math Sci—(diss) "The hydrodynamic theory of the effect of the irregularities of the Earth's surface on the large-scale atmospheric processes." Moscow, 1958. 9 pp, (Acad Sci USSR. Inst of Applied Geophysicis). 150 copies. (KL, 39-58, 104).

5

KUKBATNIN, G.P.

AUTHOR: Kurbatkin, G.P. 49-58-2-10/13

TITLE: The Influence of Large-scale Orographic Obstacles on the West-East Air Flow. (Vliyaniye krupnykh orograficheskikh prepyatstviy na zapadno-vostochnyy potok.)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1958, Nr.2, pp.244-254. (USSR).

ABSTRACT: The west-east air flow as it meets large mountain [illegible] in its path sometimes flows round them and sometimes flows over them. Depending on the height and orientation of the mountain barriers their influence on large-scale atmospheric processes differs: in some cases the air flow over the barrier is most significant in the determination of the weather (the Rockies and the Andes), and in other cases it is the flow round the obstacle (the Himalayas) that is significant. In recent years there have appeared many theoretical papers devoted to the problem of the interaction between the zonal flow and orographic obstacles; but in Card 1/12 nearly all these papers (e.g., see Refs.1,2) the

The Influence of Large-Scale Orographic Obstacles on the West-East Air Flow.

influence of mountains is expressed by a linearized term

$$U \frac{\partial \xi}{\partial \lambda}$$

where U is the zonal flow, and $\frac{\partial \xi}{\partial \lambda}$ is the derivative of the mountain profile along a contour line. Physically this term takes into account only the effect of the air mass flow over the mountain; it does not account for flow round mountain obstacles. In Refs. 3,4 a theoretical attempt was made to obtain the flow round a mountain by solving an over-idealized problem in which the air mass flow over the mountain was ignored. For a barotropic model with constant incident flow the problem of the influence of orography on the west-east flow was solved by Gambo (Ref.5). The present paper proposes another solution of this problem, in which the zonal flow is given as a function of the
Card 2/12 latitude. The author considers a stationary linear

barotropic model. Turbulent friction forces are ignored, and it is assumed that the air density depends weakly on the altitude. The boundary conditions are given on the earth's surface and are, firstly, that the normal component of the wind velocity vector to the mountain surface is zero and, secondly, that at infinity $(\rho w)_{z\to\infty} \to 0$. Equations of motion are written (in spherical coordinates) which describe the motion of a two-dimensional compressible layer on a rotating sphere in the presence of an uneven relief on the surface of the earth. The motion of the atmosphere consisting of a pure zonal circulation, upon which is imposed a perturbation caused by orographic obstacles, is considered, i.e.

$$v_\theta = v'_\theta, \quad v_\lambda = \bar{v}_\lambda + v'_\lambda, \quad w = w', \quad \zeta = \bar{\zeta} + \zeta', \quad \bar{v}_\lambda = a\,a \sin \vartheta .$$

Here a is the earth's radius, ϑ is the complement of the geographical latitude, λ is the geographical longitude, v_ϑ, v_λ and w are the velocity components

The Influence of Large-Scale Orographic Obstacles on the West-East Air Flow.

along the axes ϑ, λ and z ($z = r - a$; r is the distance from the centre of the earth), ζ is the vertical component of the curl of the velocity and a is the index of the circulation. Barred quantities refer to zonal values, and primes to their perturbations. Let the surface of the earth be defined by the equation $z = \xi(\vartheta, \lambda)$, and let H denote the height of the homogeneous atmosphere. Then we define

$$\eta(\vartheta, \lambda) = \frac{\xi(\vartheta, \lambda)}{H} .$$

The linearized equations of motion and of continuity, and the liniarized boundary condition at the earth's surface may be written

$$\frac{v'_\vartheta}{a} \frac{\partial}{\partial \vartheta} (\bar{\zeta} + 2\omega \cos \vartheta) + \frac{\bar{v}_\lambda}{a \sin \vartheta} \frac{\partial \zeta'}{\partial \lambda} + (\bar{\zeta} + 2\omega \cos \vartheta) \frac{w'_\xi}{H} = 0, \quad \text{(Eq.7)}$$

Card 4/12

The Influence of Large-Scale Orographic Obstacles on the West-East Air Flow.

$$\frac{\partial}{\partial\theta}\left[(1-\eta)v'_\theta \sin\theta\right] + \frac{\partial}{\partial\lambda}\left[(1-\eta)v'_\lambda - \eta\bar{v}_\lambda\right] = 0, \quad \text{(Eq.8)}$$

$$\frac{w'_\xi}{H} = \left[\frac{v'_\theta}{a}\frac{\partial\eta}{\partial\theta} + \frac{1}{a\sin\theta}(\bar{v}_\lambda + v'_\lambda)\frac{\partial\eta}{\partial\lambda}\right]_\xi \quad \text{(Eq.9)}$$

where ω is the angular velocity of the earth, and $\eta(\theta, \lambda)$ is not to be considered a small quantity (contrary to Ref.2). The function $\Psi = \bar{\Psi} + \Psi'$ is introduced, the known zonal part which satisfies Eq.8 and is related to the velocities v'_θ and v'_λ by the relations:

$$v'_\theta = -\frac{1}{1-\eta}\frac{1}{a\sin\vartheta}\frac{\partial\Psi'}{\partial\lambda}, \quad v'_\lambda = \frac{1}{1-\eta}\frac{1}{a}\frac{\partial\Psi'}{\partial\vartheta} + \eta a_a \sin\vartheta. \quad \text{(Eq.10)}$$

The Influence of Large-Scale Orographic Obstacles on the West-East Air Flow.

Substituting in Eq.7 from Eqs.10, and eliminating w_ξ from Eqs. 7 and 9 with the assumptions that

$(v'_\vartheta)_\xi = v'_\theta$, $(v'_\lambda)_\xi = v'_\lambda$, and $a_\xi = qa$ $(0 < q \leq 1)$,

we obtain for ψ':

$$a\frac{\partial \Delta\psi'}{\partial\lambda} + 2\omega\frac{\partial\psi'}{\partial\lambda} = 2\omega \cot\theta\,(\psi,\eta) - 2\omega a^2 a_\xi \cos\vartheta\,\frac{\partial\eta}{\partial\lambda}, \quad \text{(Eq.11)}$$

where

$$(\psi,\eta) = \left(\frac{\partial\psi}{\partial\lambda}\frac{\partial\eta}{\partial\theta} - \frac{\partial\psi}{\partial\epsilon}\frac{\partial\eta}{\partial\lambda}\right),$$

which is accurate to the first order of magnitude.
We note that to define the known zonal deviation of the stream function Ψ' introduced for an incompressible layer, we obtain an equation exactly similar to Eq.11.
Card 6/12 In this case the equation of continuity has the form:

Influence of Large Scale Orographic Obstacles [illegible] Air Flow.

$$\frac{\partial}{\partial \eta}(v_\theta \sin\theta) + \frac{\partial}{\partial \lambda} v_\lambda = 0,$$

whence

$$v'_\theta = -\frac{1}{a \sin\theta}\frac{\partial \psi'}{\partial \lambda}, \quad v'_\lambda = \frac{1}{a}\frac{\partial \psi'}{\partial \theta}. \qquad (Eq.13)$$

Thus we have to solve Eq.11 in the compressible case using Eq.10, and in the incompressible case using Eq.12. The solution for ψ' can be written in the form:

$$\psi'(\theta, \lambda) = \frac{1}{\pi}\iint_S \psi'(K, \eta)' \, d\lambda' \, d\theta' - \frac{a_\xi a^2}{\pi}\iint_S \frac{\partial \eta}{\partial \lambda'} \ln \sin \gamma' \, d\lambda' d\theta'.$$

Card 7/12 (Eq.23)

The Influence of Large Scale Orographic Obstacles on the West-East Air Flow.

where

$$K \equiv K(\theta, \lambda; \theta', \lambda') = \cos\theta' \sum_{n=1}^{\infty} \sum_{h=1}^{n} a_n^h \sin h(\lambda' - \lambda) P_n^h(\cos\theta) P_n^h(\cos\theta'),$$

$$(\psi', \eta)' = \left(\frac{\partial \psi'}{\partial \lambda'} \frac{\partial \eta}{\partial \theta'} - \frac{\partial \psi'}{\partial \theta'} \frac{\partial \eta}{\partial \lambda'} \right). \qquad \text{(Eq.22)}$$

($P_n^h(\cos\theta)$ are normalized associated Legendre polynomials). Solution of Eq.23 can be applied to investigate the influence of the Himalayas and Tibet on the general circulation of the atmosphere. The region of influence of the Himalayas and the Tibetan uplands is taken as from 40°-150° E. longitude, and from 15°-70° N. latitude. Equation 23 can be solved by the method of successive approximations, by taking mesh with a longitude interval of 10° and a latitude interval of 5° with terms in the series (22) up to n=20 and h=8. This mesh approximates to the Tibetan plateau by
Card 9/12 15 points. The index of circulation varies during the

The Influence of Large Scale Orographic Obstacles on the West-East Air Flow.

course of a year, and influences the behaviour of the function K. Hence it was decided to obtain a picture of the flow over Asia for the winter and summer seasons. For the winter season $\frac{a}{\omega}$ is taken as 0.034, and for the summer season as 0.020. It was assumed that for winter $a_\zeta \simeq 1/2\ a$, and for summer $a_\zeta \approx a$. Isobaric charts for summer and winter are introduced for comparison with the lines $\bar{\Psi} + \Psi' = \text{const}$, which are obtained from the solution of Eq.23. Figs.5 and 8 show that if only the term $\frac{\bar{v}_\lambda}{a \sin\theta} \frac{\partial \eta}{\partial \lambda}$ in Eq.9 is taken into account, the picture obtained is very far from the true one; but if the remaining terms are included the flow round Tibet and the bifurcation of the zonal flow are obtained. In

The Influence of Large Scale Orographic Obstacles on the West-East Air Flow.

Figs. 6 and 7 are clearly seen the southern jet stream and the broad winter cyclonic region over Tibet and to the south of it. Thus it is possible to suppose that the high cyclonic region of weather on winter maps arises through the interaction of the central Asian mass with the winter zonal flow. On Figs.9 and10 is seen a depression towards the south and a weak anti-cyclone over Tibet. Many meteorologists explain the transition from the winter picture to the summer one in Tibet only by a displacement of the maximum western flow towards the south. The author has obtained the typical synoptic situation for summer only as a result of the general weakening of the zonal flow, its maximum not being displaced. A reduction in the intensity of the west-east flow and the displacement of the maximum speed towards the south occur apparently approx-imately simultaneously as a result of a change in the thermal conditions in the atmosphere. It seems that in describing the beginning and the establishment of the

summer circulation in the region of Tibet, and allowing

The Influence of Large-Scale Orographic Obstacles on the ... East Air Flow.

for a displacement of the maximum speed towards the south, it is essential to take into account the ... indicated above, arising from the mechanical effect ... mountains. These conditions are very favourable for the picture of the summer flow. By taking account of them alone, it is possible to understand the unusual increase in intensity of the southern jet from summer to winter. Comparing Figs.3 and 4 with Figs. 6,7, 9 and 10, there is a very satisfactory coincidence of the results with the given observations. It must be noted that only the influence of large-scale mountain masses on the west-east flow has been discussed. After constructing the stream lines $\Psi + \Psi' = \text{const}$, it is not difficult to give a qualitative evaluation of the role played by the vertical compressibility. From Eq.11 it is clear that compressibility of the layer only appears over the mountain; it tends to smooth out the discontinuities in the velocity. Thus, for example, for a compressible Card 11/12layer the effect of flow over the mountain will be

The Influence of Large-scale Orographic Obstacles on the West-East Air Flow.

increased. There are 10 figures and 11 references, of which 6 are Russian and 5 English.

ASSOCIATION: Academy of Sciences of the USSR; Institute of Applied Geophysics. (Akademiya nauk SSSR; Institut prikladnoy geofiziki.)

SUBMITTED: June 19, 1957.

AVAILABLE: Library of Congress.

SOV/49-59-4-9/20

AUTHOR: Kurbatkin, G. P.

TITLE: The Known Geostrophic Effect in the Airflow Over Mountains (Uchet negeostrofichnosti v prostranstvennoy zadache obtekaniya gor)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1959, Nr 4, pp 581-592 (USSR)

ABSTRACT: The effect of airflow over high mountains is described in the system of right-angled coordinates with no Earth's spherical shape considered. The motion is assumed to be stable and adiabatic, and the atmosphere is considered as baroclinical. The suggested linear equations are based on the longitudinal waves. The partial derivatives of U, V, W and P are determined as Eqs (1-4) which are calculated from the basic equations of wind, velocity, pressure, density, and temperature (u, v, p, ρ, and T) on p 582. The first two equations (Eqs (1) and (2)) can be substituted by Eq (5), thus the value of $W(x, y, z)$ can be derived as Eq (6), for which the limiting conditions are Eqs (7) and (8). The

Card 1/4

The Known Geostrophic Effect in the Airflow Over Mountains

solution of the expression (6) can be shown as

$$W = (1 - z)W^0(x, y) + S(x, y, z)$$ (Ref 2) where the value of S can be calculated from Eq (9) for $f(xy) = \Delta W^0$. The latter can be determined from the Fourier transformation (p 584) and the parameter δ^2 taken as $\delta^2 \approx 100$ (Ref 10). Finally, the expression (10) is derived, which gives the solution for W. When an assumption is made that the motion is quasi-geostrophic, then the expression (5) should be substituted for $\Delta P = \varepsilon\Omega$. The value of W in this case will take the form Eq (11) and its solution will be shown as Eq (12). Then the value of W is determined and the pressure can be found from Eq (4) and its solution Eq (13) or Eq (14) in the case of the quasi-geostrophic conditions. The values of U and V are calculated at this stage from Eqs (1) and (2). In order to determine the effect of the separate harmonic on W, the coefficient k in Eqs (10) and (12) can be analyzed by using β_k and γ calculated from the formulae at the foot of p 586 and the top

The Known Geostrophic Effect in the Airflow Over Mountains

of p 588 and the results tabulated on p 587. In order to verify the above calculations, a profile of the mountain was taken:

$$\xi = ae^{-b^2[(1.2-x)^2+(1.4-y)^2]}$$

where a unit on the axes x and y = 1000 km and on z = 10 km. The height of the mountain was 2 km. The coefficients were $a = 0.2$, $b = 3.6$, the horizontal diameter - 800 to 1000 km. The vertical velocities were calculated from the formulae (10) and (12) with the first and second approximations. The results are shown in Figs 1 to 20. The quasi-geostrophic and non-geostrophic cases are shown in Figs 1-5 and Figs 6-10 respectively, where the vertical dimensions were obtained for y = 1.8, 1.6, 1.4, 1.2 and 1.0 (w' multiplied 10^2 times). Figs 11 and 12 show the field of vertical velocity $w' \times 10^2$ m/sec at the plane $z = 0.4$ and $z = 0.6$ in the non-geostrophic case. In the quasi-geostrophic case there is a deflection of the

The Known Geostrophic Effect in the Airflow Over Mountains

flow to the right in front of the mountain. The line of flow behind it is bent upwards and to the left, which is also shown in Fig 13. Figs 13 to 20 were calculated for $z = 0.2 - 0.6$. It can be noted that the waves are distinguished on the windward side of the mountain in Figs 6-10 and 11-12. There are 20 figures, 4 tables and 10 references, of which 5 are Soviet and 5 English.

ASSOCIATION: Akademiya nauk SSSR, Institut prikladnoy geofiziki (Academy of Sciences USSR, Institute of Applied Geophysics)

SUBMITTED: May 17, 1958.

BYKOV, V.V.; KURBATKIN, G.P.

Analysis of meteorological and aerological data with the aid of an electronic computer. Dokl. AN SSSR 134 no.5:1065-1068 O '60.
(MIRA 13:10)

1. Institut prikladnoy geofiziki Akademii nauk SSSR. Predstavleno akademikom A.A.Dorodnitsynym.
(Electronic data processing) (Meteorology)

BYKOV, V.V.; KURBATKIN, G.P.

Objective analysis of aerological data. Izv. AN SSSR. Ser. geofiz. no. 2:307-318 F '61. (MIRA 14:2)

1. Institut prikladnoy geofiziki AN SSSR.
(Weather forecasting)

KURBATKIN, G.P.

Two-level pressure field forecasting for the Northern Hemisphere.
Izv. AN SSSR. Ser. geofiz. no.2:229-232 F '62. (MIRA 15:2)

1. AN SSSR, Gidrometsluzhba SSSR i Obyedinennyy meteorologicheskiy vychislitel'nyy [illegible].

(Atmospheric pressure)
(Weather forecasting)

KURBATKIN, G.P.

Forecasting of the barometric field, temperature, and vertical velocities of hemisphere for a period not exceeding 5 days. Izv.AN SSSR. Ser.geofiz. no.12:1825-1836 '62. (MIRA 16:2)

1. Vychislitel'nyy meteorologicheskiy tsentr.
(Numerical weather forecasting)

ACCESSION NR: AT4034672 S/0000/64/000/000/0019/0041

AUTHOR: Kurbatkin, G. P.

TITLE: Two-level scheme of short-range forecasting of geopotential and vertical movements

SOURCE: AN SSSR. Ob"yedinenny*y meteorologicheskiy vy*chislitel'ny*y tsentr. Gidrodinamicheskiy dolgosrochny*y prognoz pogody* (Hydrodynamic long-range weather forecasting). Moscow, Izd-vo "Nauka," 1964, 19-41

TOPIC TAGS: meteorology, atmospheric pressure, weather forecasting, atmospheric geopotential, atmospheric vertical movement

ABSTRACT: Atmospheric pressure is forecast using the baroclinic two-level nonlinear model proposed by Ye. N. Blinova (Dokl. AN SSSR, 111, No. 6, 1956), using Blinova's vorticity and heat flux equations in a spherical system of coordinates as the initial equations. Forecasts for up to five days were made using an electronic computer. It was found that with an increase in the forecasted period the indicated model causes a continuous intensification of westerly winds in the middle latitudes; in the middle latitudes there is a systematic increase in the value of moment of momentum. As a result of this middle-latitude exaggeration the forecasts for 3-days in advance already were bad and computations for 5-days in ad-

Card 1/2

ACCESSION NR: AT4034672

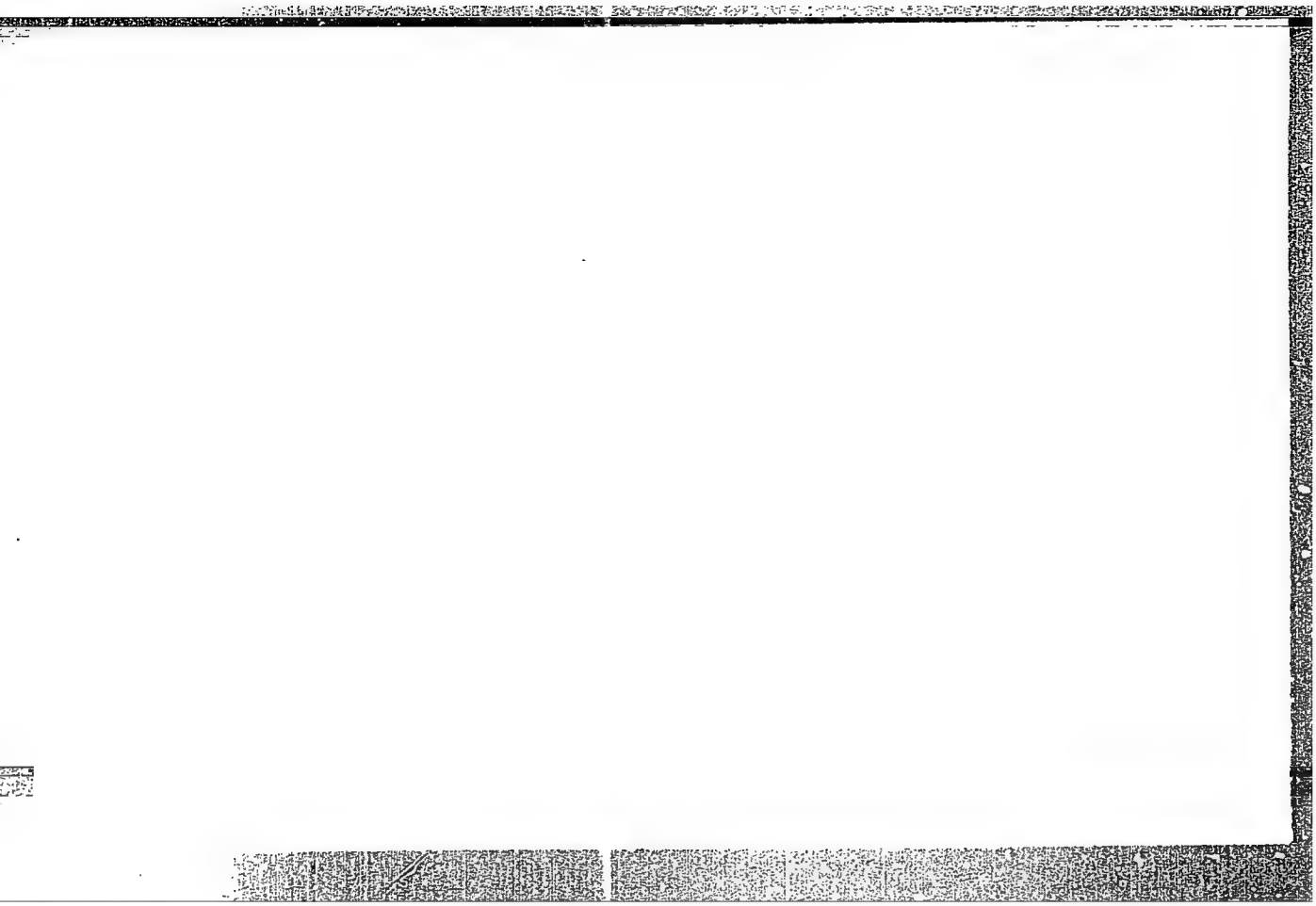
vance led to unreal values of the heights of isobaric surfaces. Two examples are cited as an illustration. A smoothing method is proposed for eliminating this difficulty, making it possible to make generally valid 5-day forecasts (although in certain cases processes associated with a sharp change of zonal velocity are not described sufficiently well in particular regions). The improved method then was used to make five sample forecasts of AT_{300}, AT_{700} and OT_{700}^{300} charts and charts of vertical velocities; evaluations of these forecasts are given. Orig. art. has: 14 formulas, 7 figures and 10 tables.

ASSOCIATION: Ob"yedinennyy meteorologicheskiy vychislitel'nyy tsentr (Joint Meteorological Computation Center)

SUBMITTED: 22Nov63 DATE ACQ: 16Apr64 ENCL: 00

SUB CODE: ES NO REF SOV: 004 OTHER: 008

Card 2/2



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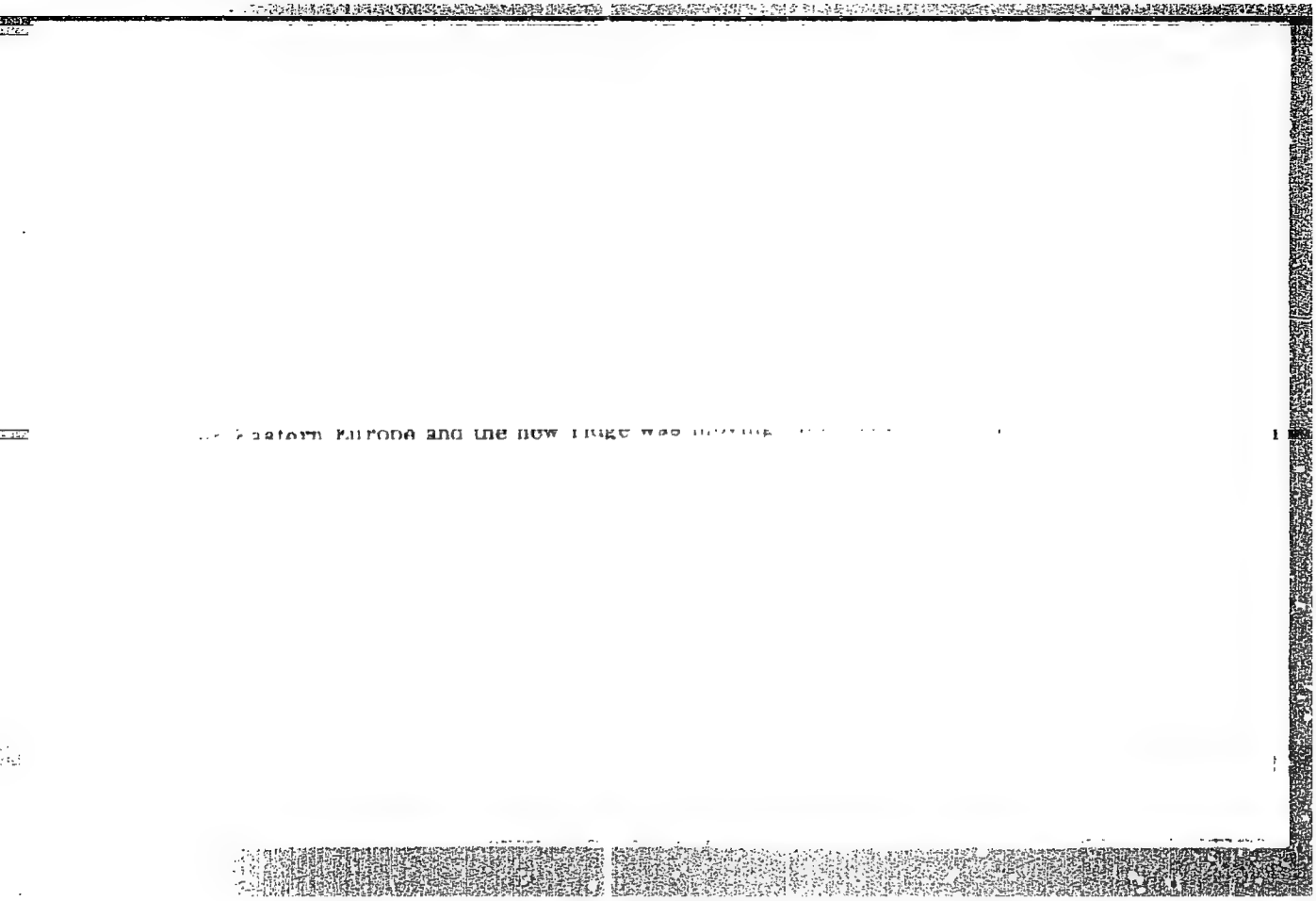

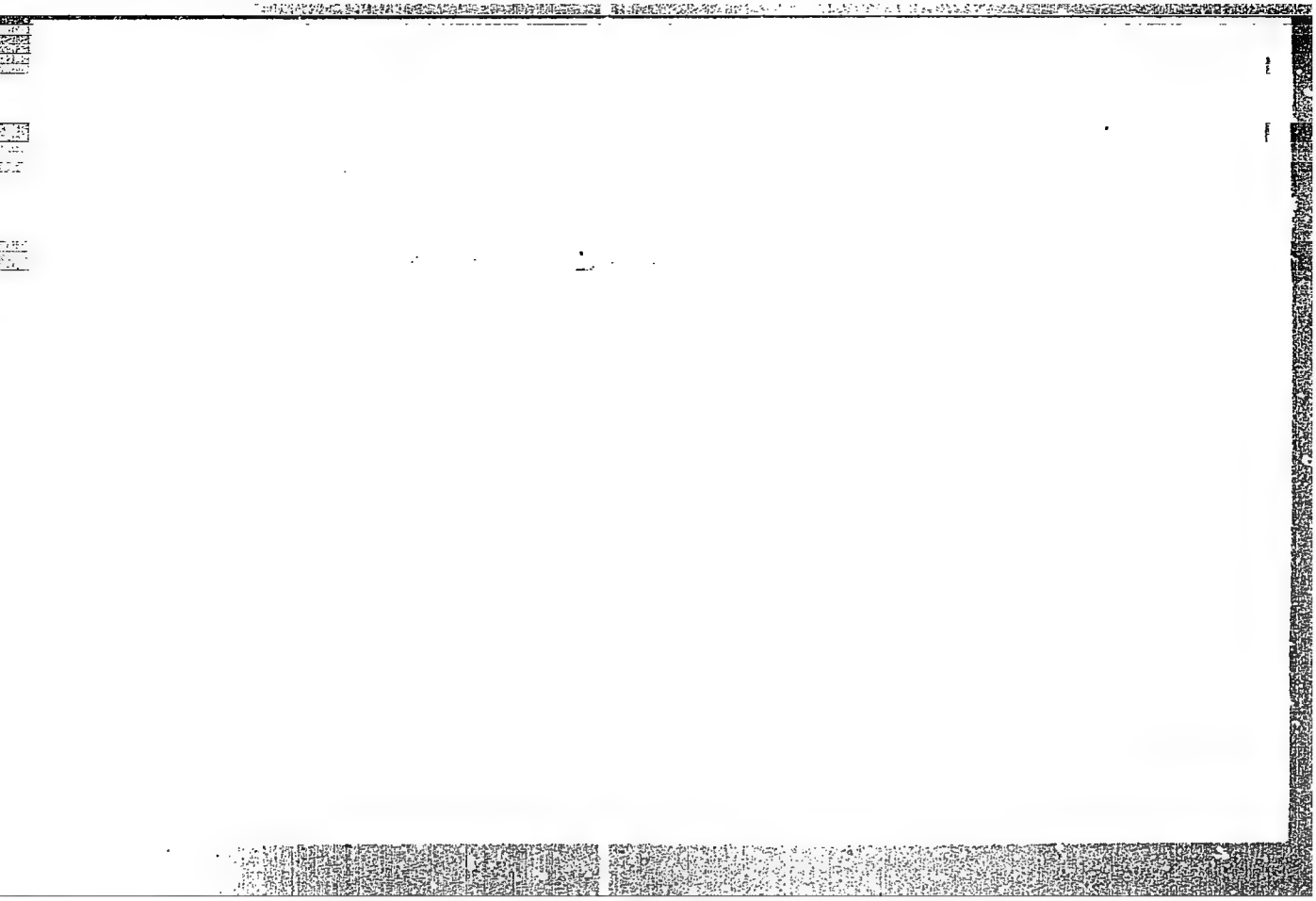

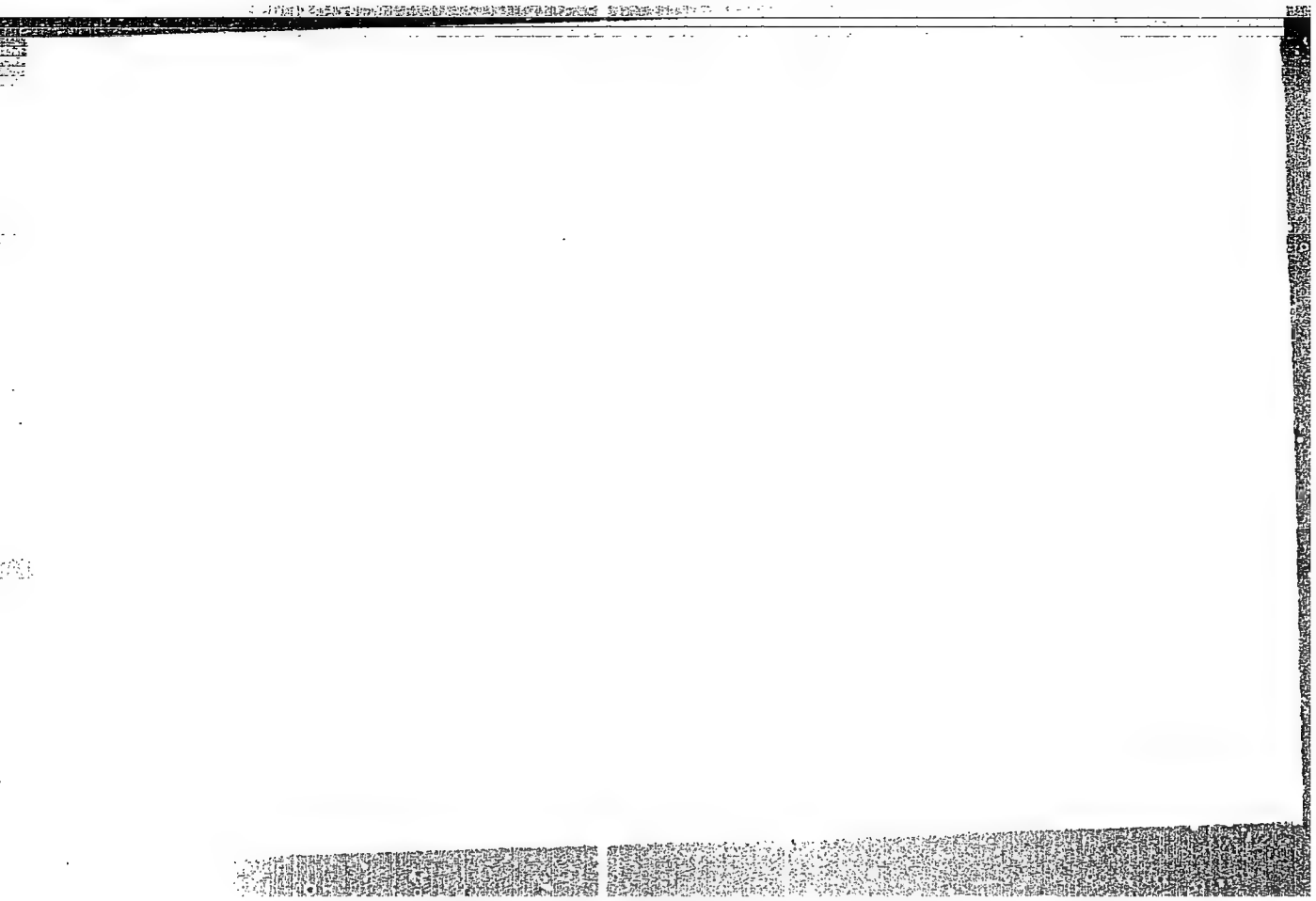

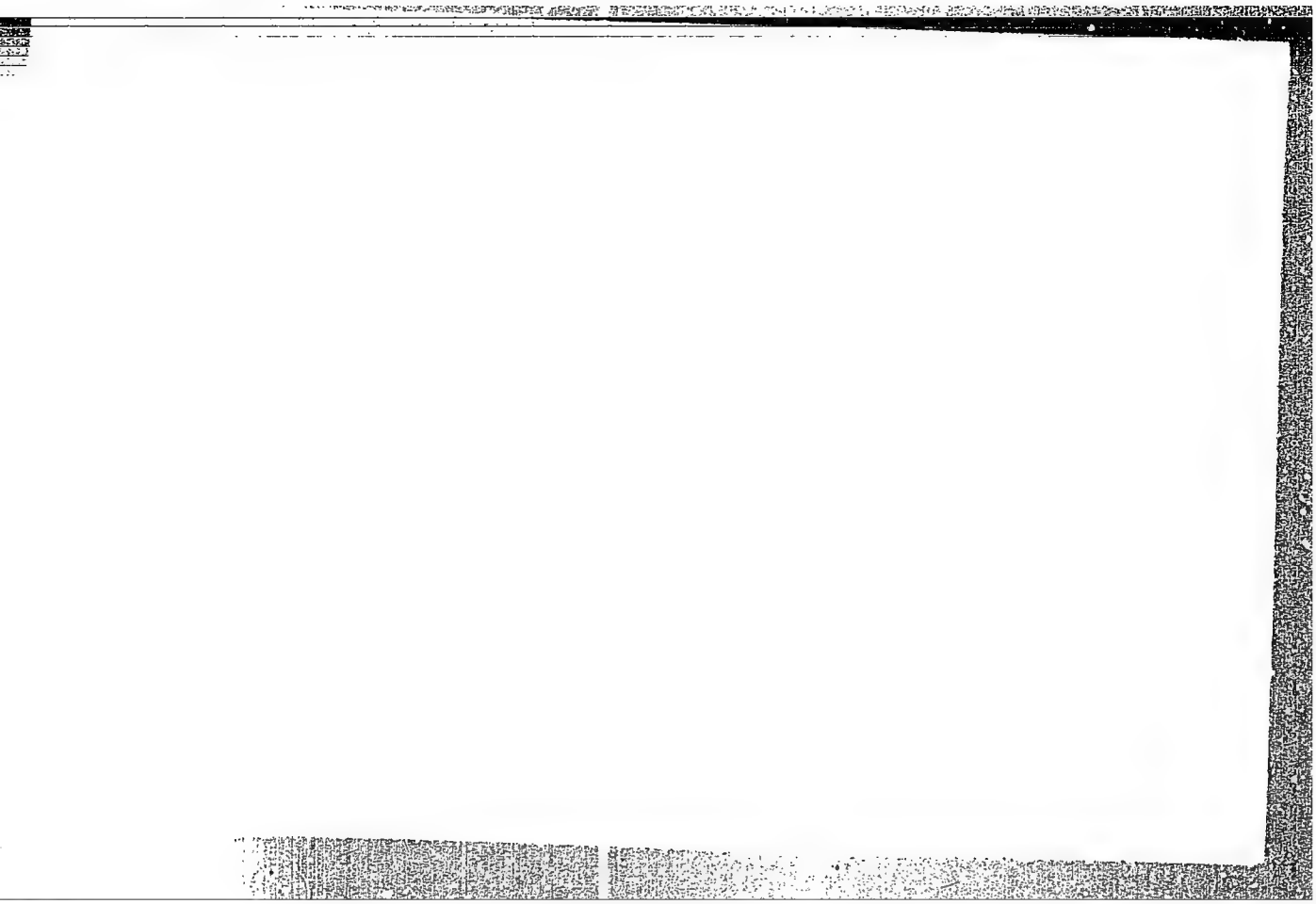

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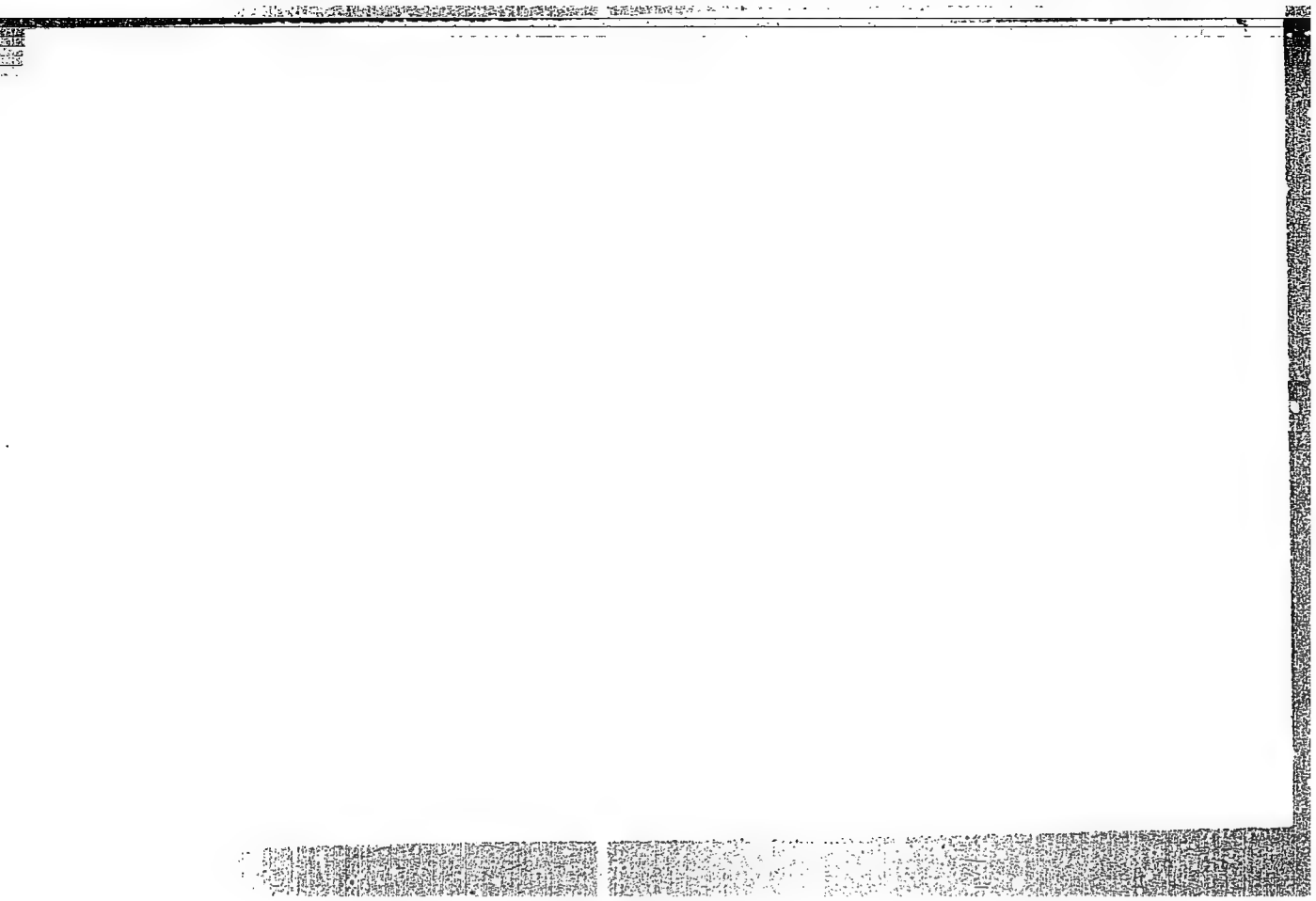

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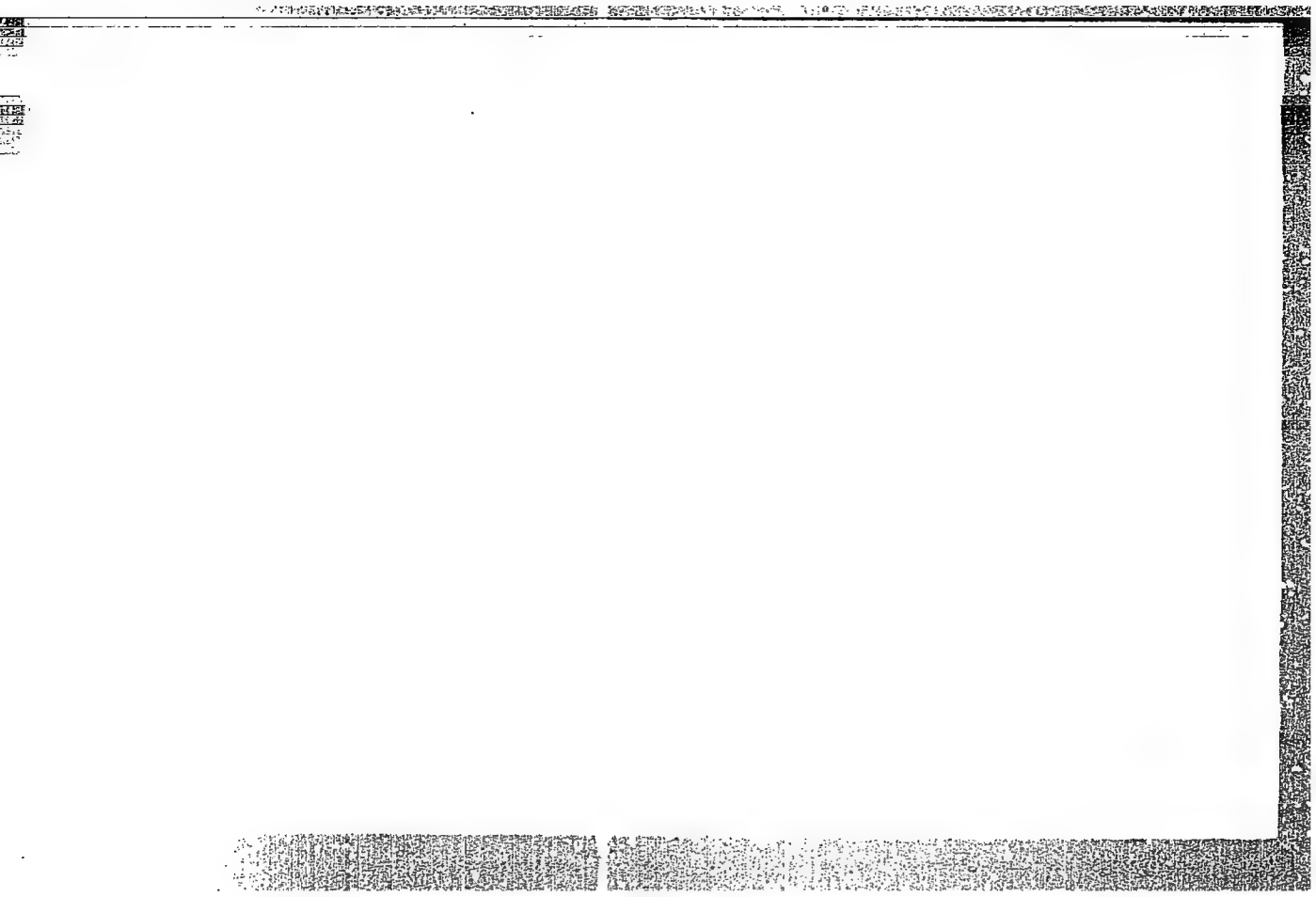

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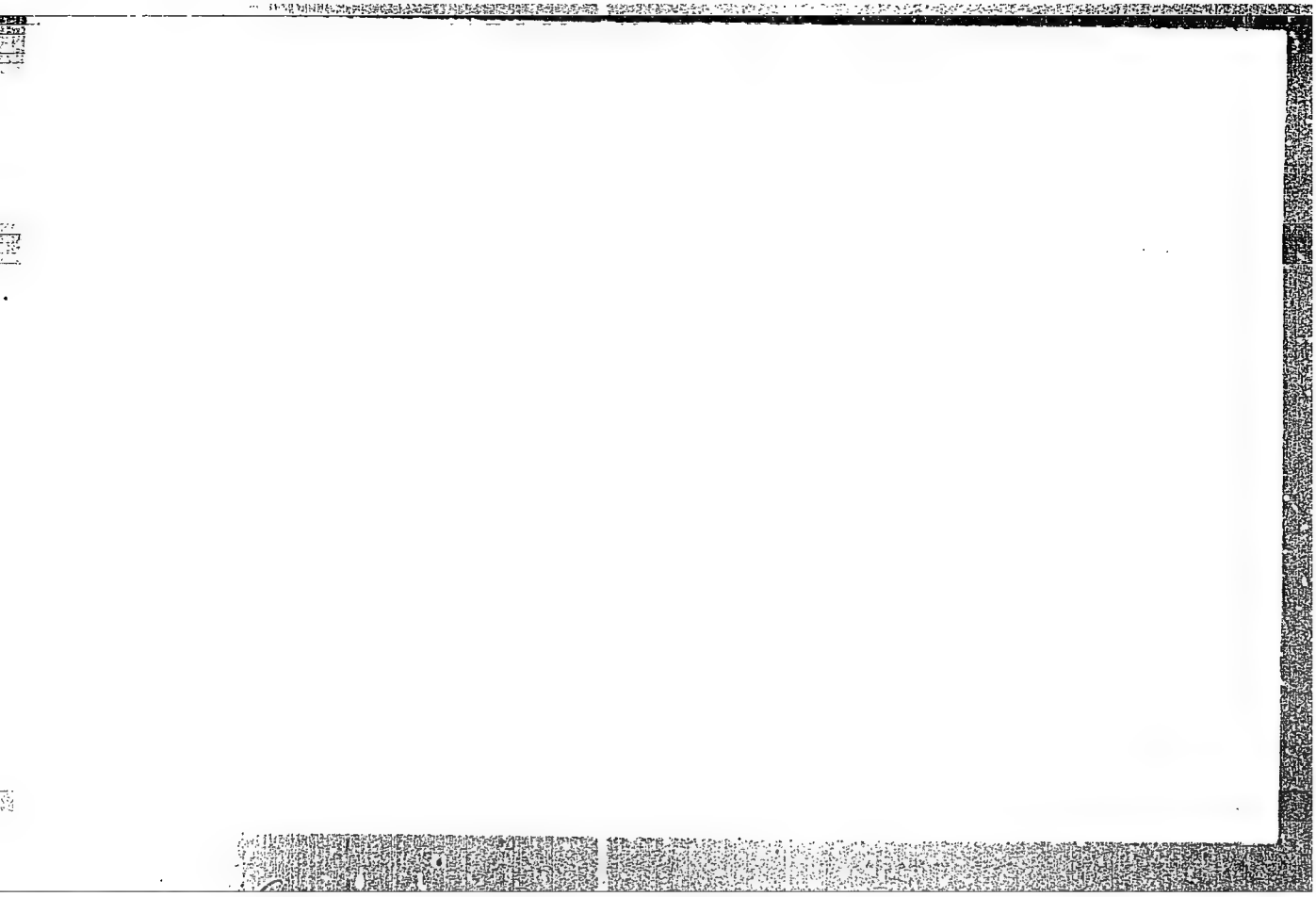

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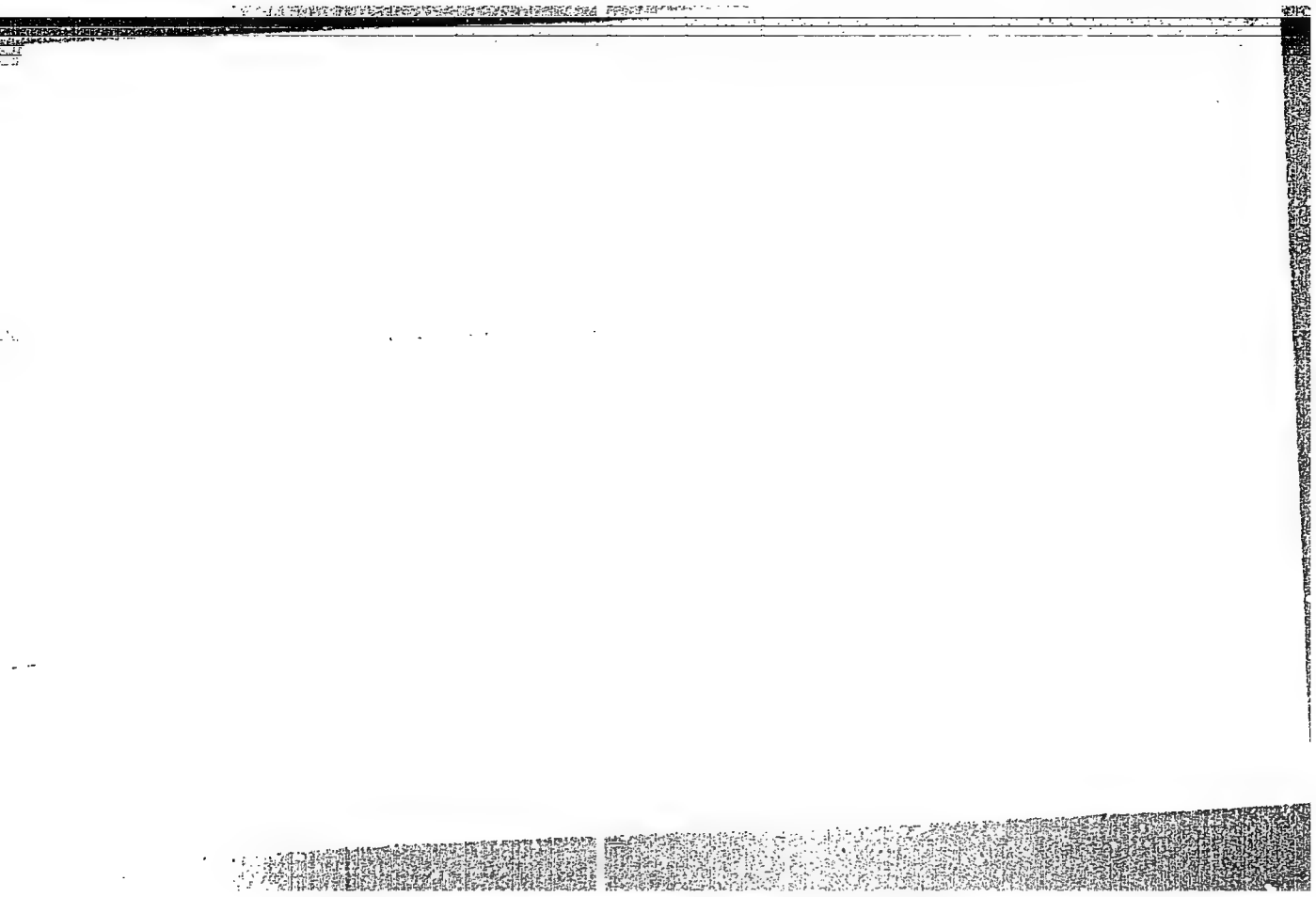

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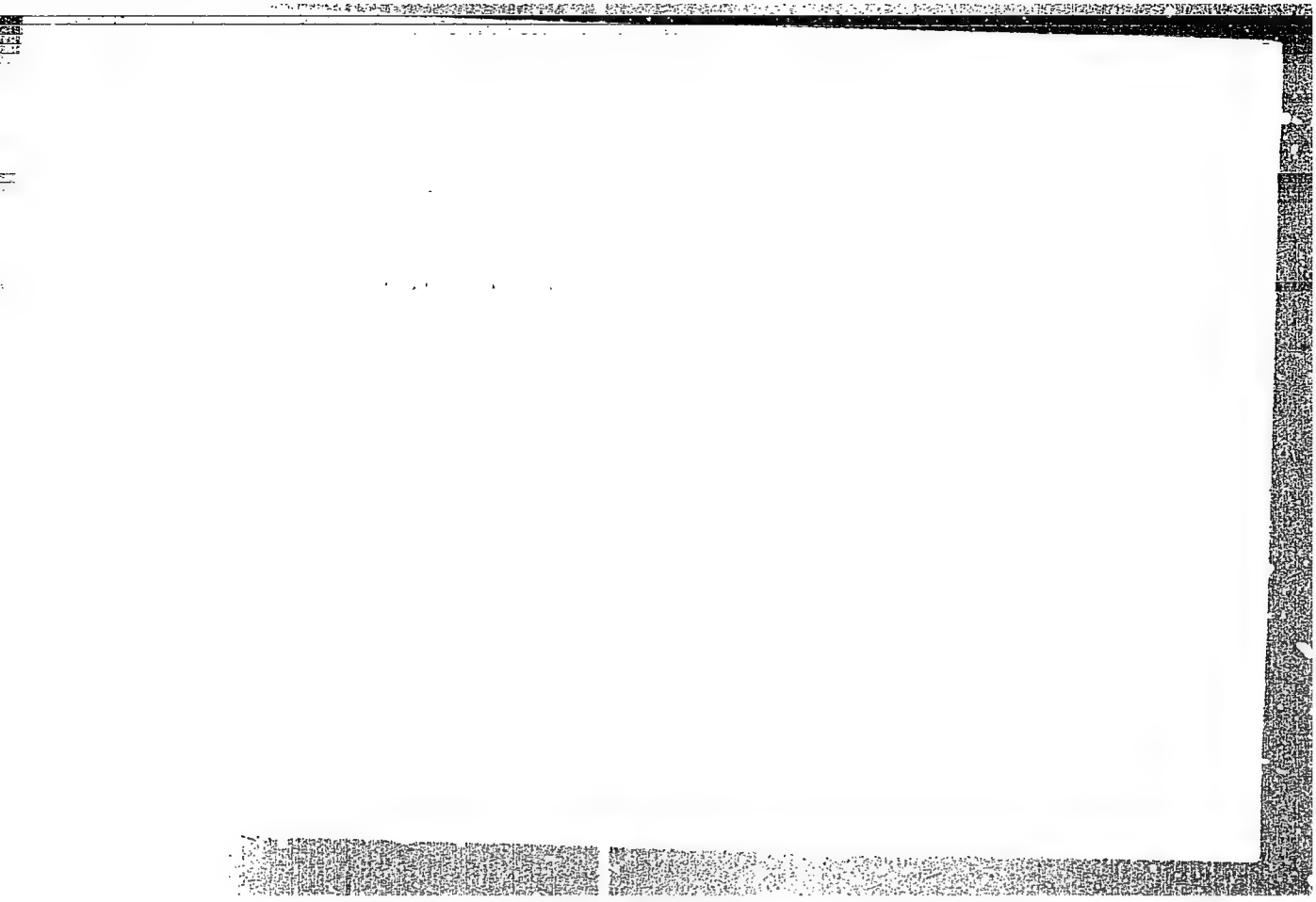

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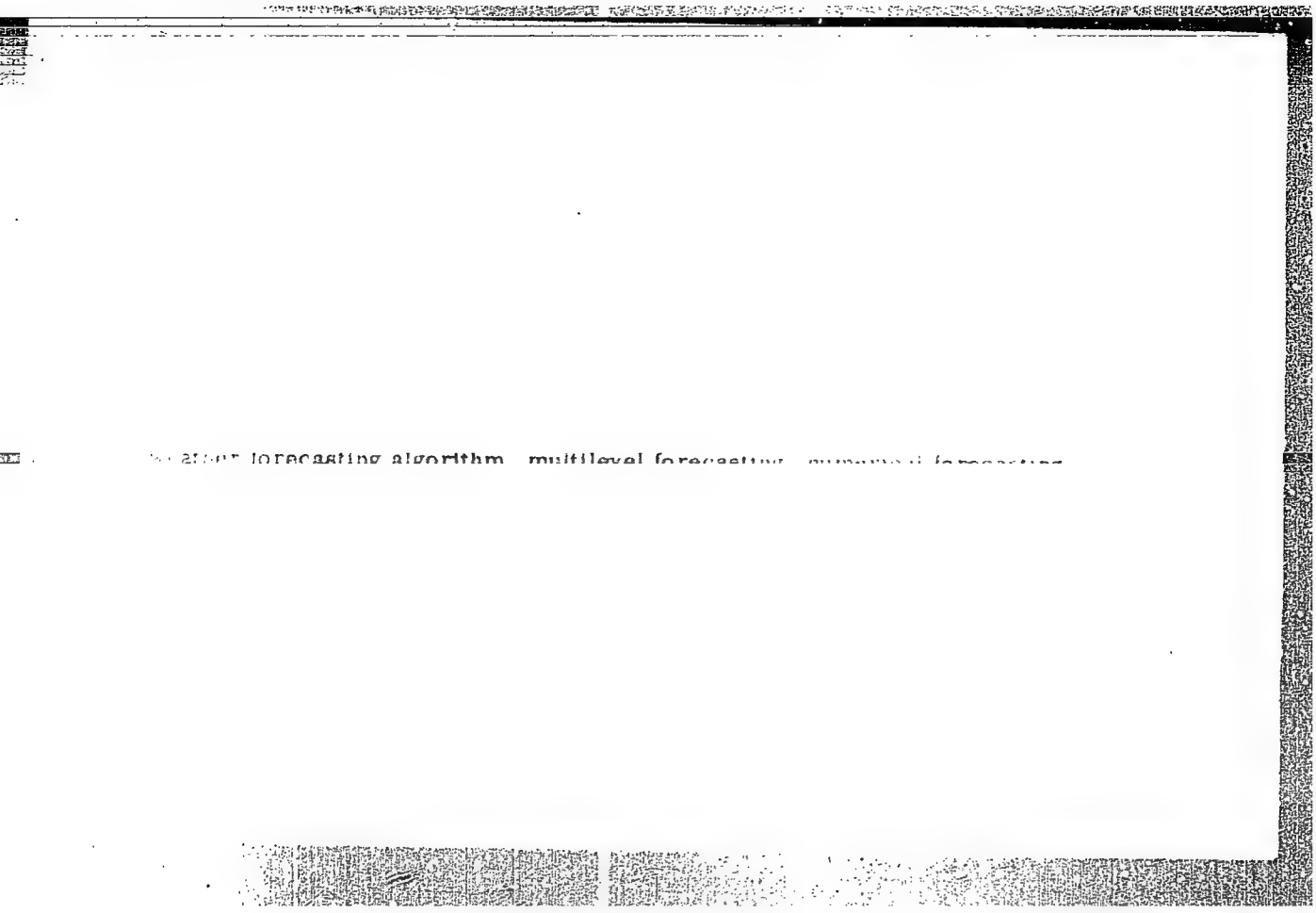
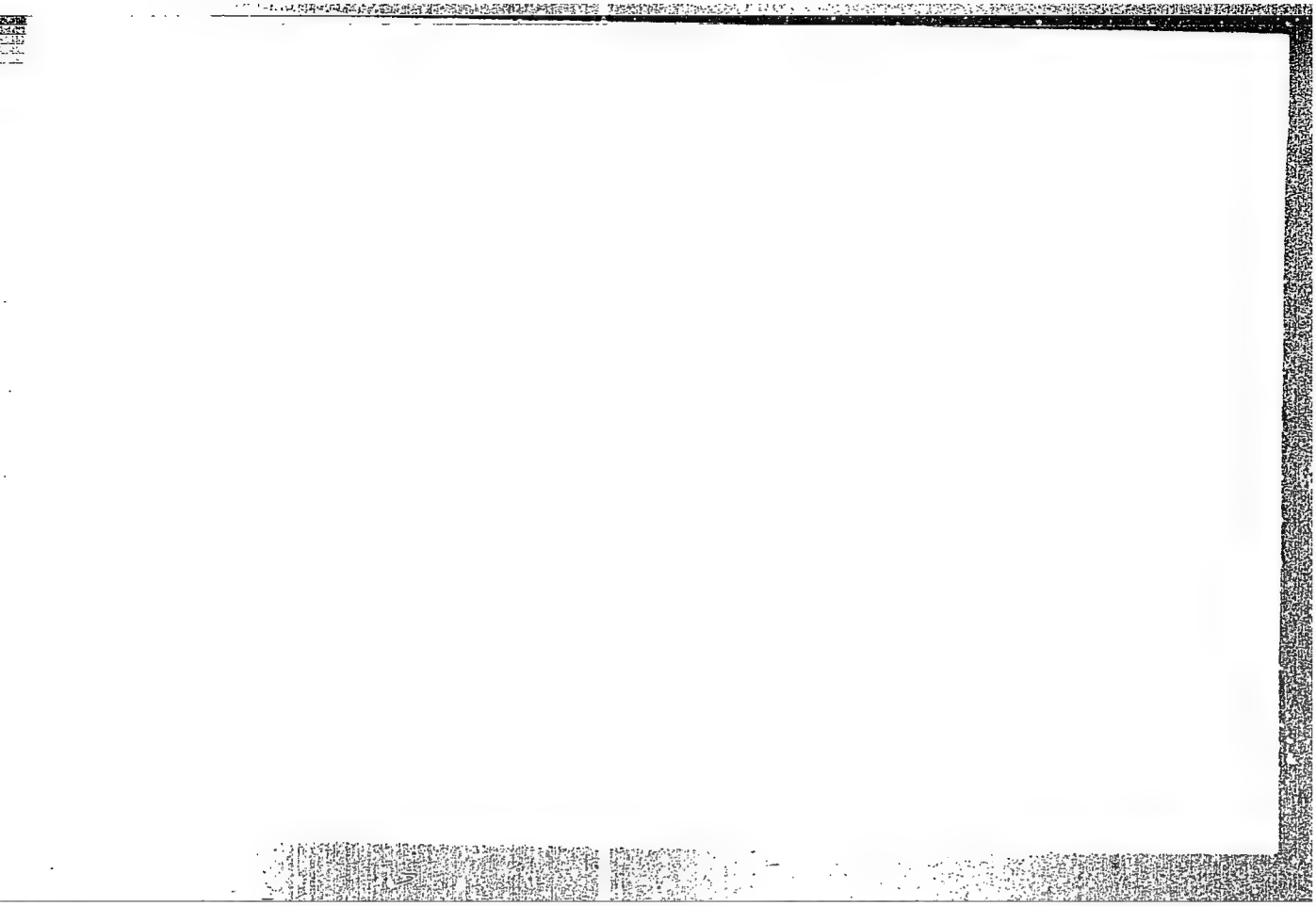




KURNATKIN, G.P.

Changes in the kinetic energy of atmospheric motions. Izv. AN SSSR. Fiz. atm. i okeana 1 no.12:1260-1269 D '65.
(MIRA 19:1)

1. Vychislitel'nyy tsentr, Sibirskoye otdeleniye AN SSSR.
Submitted May 26, 1965.

L 19370-66 EWT(1)/FCC GS/GW

ACCESSION NR: AT5008059 S/0000/64/000/000/0204/0213

AUTHOR: Bykov, V. V.; Kurbatkin, G. P.; Gorelysheva, I.V. 12,44,55 12 B+1

TITLE: Numerical analysis of the geopotential and of wind at five atmospheric levels

SOURCE: Simpozium po chislennym metodam prognoza pogody. Moscow, 1963. Trudy. Leningrad, Gidrometeoizdat, 1964, 204-213

TOPIC TAGS: meteorology, geopotential, wind, objective analysis

ABSTRACT: A multilevel method for objective analysis of aerological data is described. This method is based on representation of the field of the analyzed meteorological element by means of a polynomial. In the proposed scheme of objective analysis of geopotential and wind at five atmospheric levels some methods adopted from the usual synoptic analysis of charts of baric topography were used. In the matched analysis at several levels erroneous information was corrected and gaps in the data were filled in. The results of the computations are given. A new method of numerical analysis of the absolute geopotential is proposed which is based on the principles of plotting of baric topography charts. Orig. art. has:

Card 1/2

L 19370-66

ACCESSION NR: AT5008059

2 figures, 3 tables, 6 equations.

ASSOCIATION: none

SUBMITTED: 060ct64 ENCL: 00 SUB CODE: ES

NO REF SOV: 005 OTHER: 001

Card 2/2 BC

KURBATOV, A.

Comprehensive mechanization of potato warehouses. Sov.torg. 34 no.7:54-56 Jl '61. (MIRA 14:7)
(Moscow--Potatoes--Storage)

KURBATOV, A.

Storing pickles in containers filled with water. Sov.torg. 35 no.1:54-55 Ja '62. (MIRA 15:1)
(Canning and preserving)

KURBATOV, A.

Mechanizing the sorting and packaging of potatoes. Sov. torg. 35 no.5:61-63 My '62. (MIRA 15:5)
(Potatoes—Grading)

KURBATOV, A.

ORANSKIY, N., inzh.; KURBATOV, A., inzh.; KOSTRIKIN, Ya., inzh.

Collective farm work-shops for current repairs. Nauka i pered. op. v sel'khoz. 8 no.5:11-12 My '58. (MIRA 11:5)
(Agricultural machinery--Maintenance and repair)

KURBATOV, A.

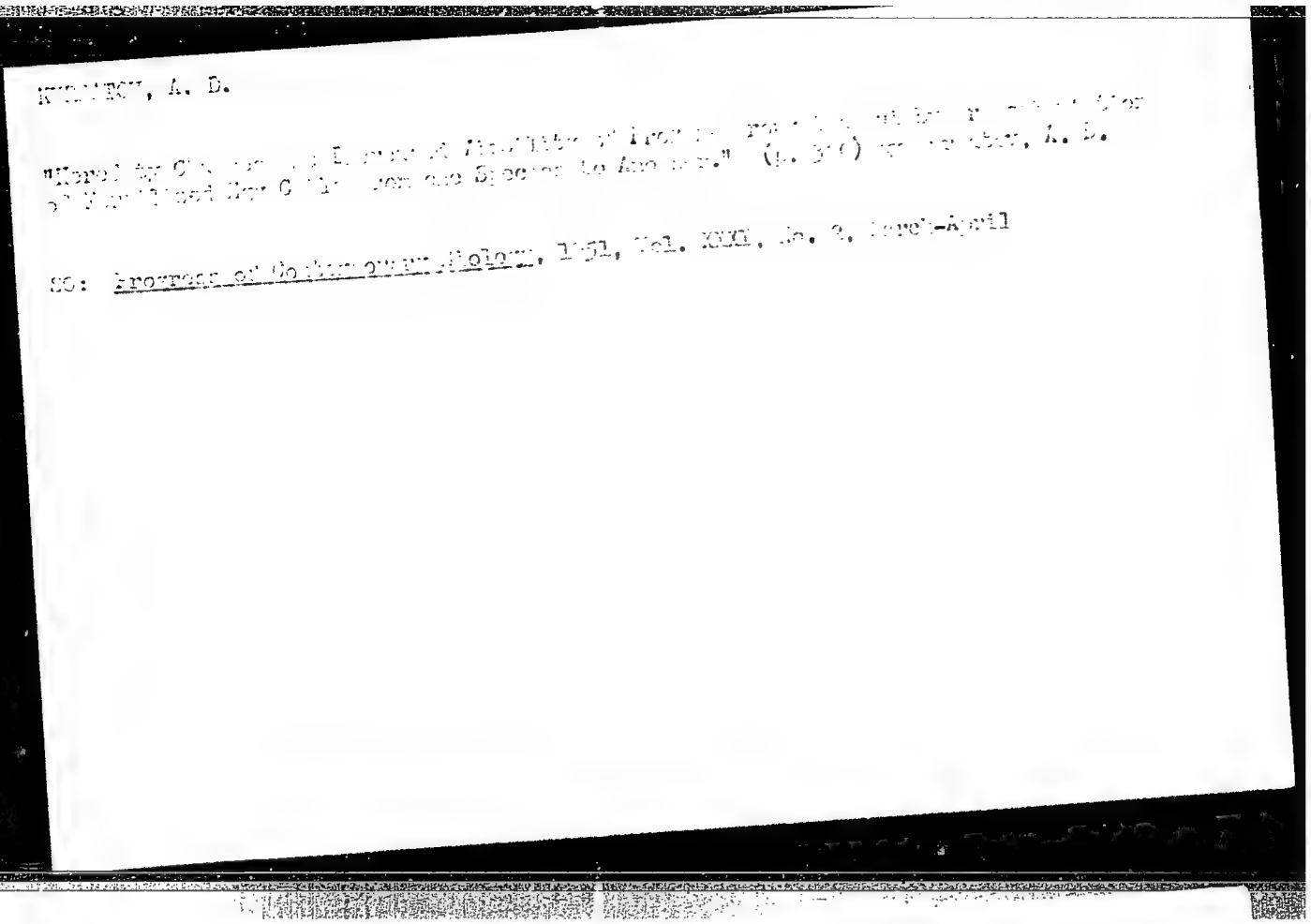
Recording instrument for multiple-bucket dredger operations. Mekh. transp. 21 no.2:54 F '62. (MIRA 15:3)

1. Novosibirskiy tekhnicheskiy uchastok puti.
(Dredging machinery) (Recording instruments)

[illegible]OV, A. D.

21 56 [illegible], A. D. Vliyaniye [illegible] na [illegible] o azotisto o obmena u sobak. Trudy [illegible] in-ta. t. XIX, 1[illegible], s. 1[illegible]6-27.-Bibliogr: 16 NAZV.

SO: Letopis' Zhurnal'nykh Statey, No. 3[illegible], Moskva, 1[illegible].



[illegible], A. D.

"[illegible]" (p. 3-6) [illegible], A. D.

SO: Progress of Physical Biology, 1951, Vol. XXXI, No. 2, [illegible]-April

KURBATOV, A.D.

Heredity modifications, and increase of vitality of progeny by transplantation of fecundated ovum of another breed of rabbit. Effect of the mother-carrier on development, appearance and vitality. Usp. sovrem. biol. 32 no.1:113-120 July-Aug 1951. (CLML 20:11)

1. Leningrad.

KURBATOV, A. D.

"Changes of Heredity and Increase in Vitality of the Offspring by Means of Inter-breeding Transplantation of Fecundated Ovicells in Female Rabbits. Report II" (p. 121)
by Kurbatov, A. D.

SO: Achievements of Modern Biology (Uspekhi Sovremennoy Biologii) Vol. XXXII, No.1 (4) Moscow-Leningrad, July-August, 1951.

KURBATOV, A. D., TIKHOMIROVA, M. M.

Metabolism

Basal metabolism in animals and sex of progeny. Agrobiologiia, No. 4, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. Unclassified.

1. KURBATOV, A. D.

2. USSR 600

4. Rabbits

7. Change in the ingeritance of coat color in rabbits under the influence of the development of their parents in the organism of mothers of other breeds, Vest Len un, 7, No. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

KURBATOV, A.D.

Abrupt hereditary changes in rabbits following cross breeding.
Usp. sovrem. biol. 33 no. 3:466-471 May-June 1952. (CLML 22:4)

1. Leningrad.

KURBATOV, A. D.

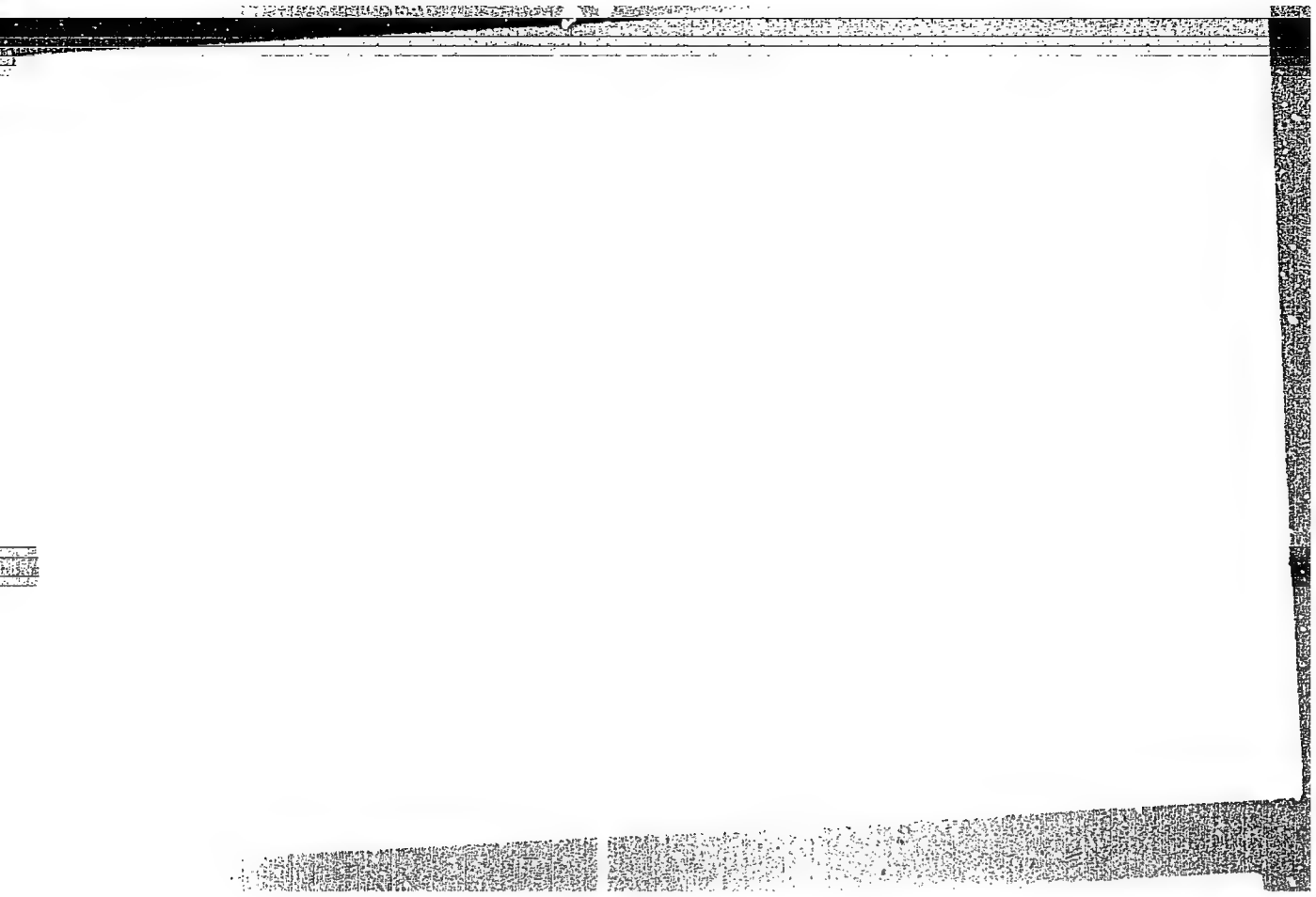
KURBATOV, A.D.; TIKHOMIROVA, M.M.

Effect of the intensity of basal metabolism in animals on the ratio of sexes in their progeny. Uch.zap.Len.un. no.165 '53. (MLRA 7:7)

1. Laboratoiya genetiki zhivotnykh kafedry genetiki i selektsii (zaveduyushchiy kafedroy professor N.V.Turbin)
(Metabolism) (Sex(Biology))

KURBATOV, A.D.; MINYAYLO, D.D.

Effect of the age of mated pigs on the ratio of sexes in offspring. (MLRA 9:7)
Vest.Len.un. 9 no.1:57-64 Ja '54.
(Swine breeding)



APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000927620013-1"

B-5

USSR / General Biology. Genetics.

Abs Jour: Ref Zhur-Biol., No 10, 1958, 42869.

Author : Kurbatov, A. D.
Inst : Not given.
Title : Change of Heredity in Rabbits in Intravariety Zygote Transplantation.

Orig Pub: B.sb.: Probl. sovrem. embriologii. L., Un-t, 1956, 221-226.

Abstract: An attempt is made to prove the effect of the mother-bearer on hereditary fetal processes. In the experiments females of the varieties white angora and white giant, and males of the chinchilla variety, were used. The females and a portion of the males were pure-bred; another portion of the males of chinchilla variety were developed in the organism of mothers of a different breed, i.e.,

Card 1/4 21

B-5

USSR / General Biology. Genetics.

Abs Jour: Ref Zhur-Biol., No 10, 1958, 42869.

Abstract: these males were the result of transplanting intravarietal zygotes. Through mating of females of the indicated varieties with pure-bred chinchilla males, 398 young were born, which had a gray fur color characteristic of the chinchilla variety. The fur color of young begotten by males which developed in the organism of white angora females was not always grey. Thus, of 92 young born from mating these males with white angora females, 42 young were grey, but 48 had a fur characteristic of Russian ermine young. From a chinchilla male which developed in the organism of a white giant female and was mated with white giant

Card 2/4

USSR / General Biology. Genetics.

Abs Jour: Ref Zhur-Biol., No 10, 1958, 42869.

Abstract: females, 41 young were born, of which 15 had a color characteristic of chinchilla; the remainder had the color of Russian ermine young. In other experiments the effect of the mother-bearer organism was shown in the length of the fur cover. Usually when animals of variety white giant, which possess a fur cover of normal length, were mated with short-furred animals of rex variety, the normal fur length is dominant over the short fur. In an experiment by the author with a male of white giant variety which developed in the organism of a female of rex variety, mated with a female of rex variety, all four offspring obtained from mating the animals were short-furred. From his experiments the author concludes that the assimilation by fetuses of maternal plastic substances from a

USSR / General Biology. Genetics. B-5

Abs Jour: Ref Zhur-Biol., No 10, 1958, 42869.

Abstract: different variety exerts a considerable effect on heredity.

Editor's note: The irregularity of results obtained and the appearance in the offspring under experiment of animals with ermine coloration show evidence of heterozygoticity of the animals in the experiment, which makes the general conclusions of the author hardly reliable.

Card 4/4

KURBATOV, A.D., kand. biol. nauk; KORBAN, N.V.

Treatment of hens and eggs with hormonal substances and the sex of chicks. Agrobiologiia no.4:543-548 Jl-Ag '65.
(MIRA 18:11)

1. Pushkinskiye laboratorii razvedeniya sel'skokhozyaystvennykh zhivotnykh g. Pushkin, Leningradskaya oblast'.

KURBATOV, A.I. (Leningrad, P-22, Bol'shoy pr., d.106, kv.38)

Tomographic study in osteo-articular tuberculosis. Vest. rent. i rad. 36 no.6:29-34 N-D '61. (MIRA 15:2)

1. Iz kafedry rentgenologii i radiologii Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.
(BONES--TUBERCULOSIS) (JOINTS--TUBERCULOSIS)

KURBATOV, A.I., kand. med. nauk

Significance of tomography in osteomyelitis. Vest. rent. i rad. 39 no.4: 25-28 Jl-Ag '64. (MIRA 18:7)

1. Kafedra rentgenologii i radiologii (nachal'nik - prof. V.S.Vakhtel') i kafedra voyenno-polevoy khirurgii (nachal'nik - prof. A.N.Berkutov) Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova, Leningrad.

KURBATOV, A.I., master

Automatic steam pressure control mechanism. Energetik 3 no.7:13 Jl '55. (MLRA 8:9)
(Manometer) (Boilers--Safety appliances)

KUIBATOV, A.I.

With the railroad workers. Sov.profsoiuzy 16 no.5:18 Mr '60. (MIRA 13:3)
(Lenin, Vladimir Il'ich, 1870-1924)
(Railroads--Employees)

KURBATOV, A.I., priyemshchik

The 64/01.18 voltage stabilizers. Elek.i tepl.tiaga 5 no.4:34-37 Ap '61. (MIRA 14:6)

1. Depo Leningrad-Baltiyskiy Oktyabr'skoy dorogi.
(Diesel locomotives) (Voltage regulators)

STREKOPYTOV, Viktor Vasil'yevich; KURBATOV, Anton Ivanovich; YELSUKOV, V.A., inzh., retsenzent; NOVIKOV, A.V., inzh., red.; GROMOV, Yu.V., tekhn. red.

[Electric drive of the VME1 diesel locomotive] Elektricheskaia peredacha teplovoza VME1. Moskva, Transzheldorizdat, 1962. 54 p. (MIRA 15:6)
(Diesel locomotives—Electric driving)

BOL'SHAKOV, Anatoliy Stepanovich; SARIN, Valeriy Ivanovich; SHVAYNSHTEYN, Boris Simonovich; POMOMAREV, V.S., inzh., retsenzent; ZAZOVSKIY, D.G., inzh., retsenzent; MAKAROV, M.S., inzh., retsenzent; POPOV, G.V., inzh., retsenzent; KURBATOV, A.I., retsenzent; KITAYEVA, Z.A., inzh., retsenzent; SDOBNIKOV, Ye.F., retsenzent; KOVALEV, A.K., inzh., retsenzent; KESAREV, A.P., inzh., retsenzent; KISELEVA, N.P., inzh., red.; GROMOV, S.A., kand. tekhn. nauk, red.; SHCHERBACHEVICH, G.S., inzh., red.; USENKO, L.A., tekhn. red.

[Shunting diesel locomotives]Manevrovye teplovozy. Moskva, 1962. 383 p. (MIRA 15:6)

(Diesel locomotives)